

CLAIMS

1. A drive dynamo-electric unit speed controlled compound system including one dynamo-electric unit or a primary and a secondary dynamo-electric unit units or more than two dynamo-electric unit units incorporated with engine or other rotating moment device, and one unit or more than one unit of centrifugal clutch, one-way transmission mechanism or output clutch or related transmission mechanism and manual control interface, central controller and storage device to create specific control pattern and to execute the operation of specific compound power function by selection among those units and control of drive control device operation, is essentially comprised of the following units:
- centrifugal clutches FC101 and FC102: comprised of one centrifugal clutch unit FC101 or of two centrifugal clutch units of FC101 and FC102 being engaged to each other or sharing a same structure, or of a double-acting centrifugal clutch having two independent centrifugal clutch units coupled to each other by means of a transmission device; the structure includes three layers, an inner layer, an intermediate layer and an outer layer, within, the inner layer contains a drive power-locking unit to act outward when the centrifugal force reaches a preset value and is incorporated to draw each other with an output shaft; the intermediate layer incorporated to an engine has a coupling surface or an inner circumference and a drive power-locking unit on its outer side to act outward when the centrifugal force

reaches its preset value so to couple to a power-locking inner circumference from the outer layer to execute the function of an output clutch, and the outer layer also incorporated to the output shaft so to temporarily cut off linkage to a load when the engine runs at low rpm;

- one-way transmission mechanism SWC101: comprised of various known mechanisms that execute one-way transmission to be directly provided or jointly provided with other transmission mechanism between a primary dynamo-electric unit E101 and a steering shaft S103 driven by an engine ICE101 for the steering shaft S103 driven by the engine ICE101 to transmit at a pre-selected rotation direction in relation to the rotation part of the primary dynamo-electric unit E101; on the contrary, to execute idling to interrupt the power transmission; if the engine ICE101 drives clockwise (CW), the steering shaft S102 transmits power to the primary dynamo-electric unit E101; and counterclockwise (CCW), to interrupt the power transmission; meanwhile, if the primary dynamo-electric unit E101 drives counterclockwise (CCW), the steering shaft S102 drives the engine ICE101 in opposite direction; and clockwise (CW), to interrupt the power transmission. With the selection of the direction for the one-way transmission mechanism SWC101, the rotation direction of and whether the transmission to be continued or interrupted between the engine ICE101 and the primary dynamo-electric unit E101 is selected

TOP SECRET 10401

as the case may be; the one-way transmission mechanism SWC101 is independently provided or provided at the same time with the centrifugal clutch FC101 for the system to indicate various compound power characteristics; as required, the relative locations between the one-way transmission mechanism SWC101 and the centrifugal clutch FC101 has the centrifugal clutch FC101 provided at where close to the side of the steering shaft S103 of the engine ICE101 and the one-way transmission mechanism provided at where close to the side of the primary dynamo-electric unit E101 or the centrifugal clutch; or has both of the centrifugal clutch FC101 and the one-way transmission mechanism SWC101 provided at where between the steering shaft S103 of the engine ICE101 and the rotation part of the primary dynamo-electric unit while both of the centrifugal clutch FC101 and the one-way transmission mechanism SWC101 is separately provided or sharing the same structure;

- primary dynamo-electric unit E101: essentially functioning as a motor and also as a secondary generator, related to a secondary motor of series excitation or pilot compound type secondary dynamo-electric unit with dynamo-electric unit characteristics that the speed becomes higher when the load gets smaller; or an AC or DC brush or brushless device that executes amperage control (including control of constant current) for the input electric energy to generate kinetic energy of rotation mechanical that increases torque as the load increases,

or to other AC or DC, brush or brushless, synchronous or asynchronous inner rotor or outer rotor rotation dynamo-electric unit;

- secondary dynamo-electric unit E102: essentially functioning as a generator and also as a secondary motor, comprised of an inner rotor or outer rotor rotation dynamo-electric unit generates AC or DC, brush or brushless, synchronous or asynchronous energy to convert kinetic energy of rotation mechanical into electric energy;

- engine ICE101: comprised of various known internal combustion engine and its related start-up and operation speed control device and peripheral interface devices including fuel system, air inlet & exhaust system, ignition system and cooling system to directly drive the steering shaft S103 or by way of fixed speed ratio or variable speed ratio or variable steering transmission mechanism or planetary transmission mechanism T104;

- the fixed or variable speed ratio or variable steering transmission or planetary transmission mechanism T104: an optional mechanism comprised of various known coaxial or non-coaxial transmission, e.g. a fixed ratio speed or stage or stageless variable transmission mechanism comprised of a gear set, belt gear set or sprocket gear set or power-locking gear set;

- fixed or variable speed ratio or variable steering transmission or planetary transmission mechanisms T101, T102, T103: a structure to executed variable

speed ratio or steering function, comprised of gear set, chain and sprocket gear set, power-locking gear set, planetary gear set, or other stage or variable, manual or automatic shift transmission mechanism;
the transmission mechanism is optional;

- output clutches CL101, CL301: an optional mechanism comprised of output clutches connected in series between the steering shaft S104 on load side and the load controlled by manual, mechanical, electromagnetic or hydraulic or centrifugal force;

- differential gear set DG: an optional mechanism comprised of gear or power-locking gear to receive rotation kinetic energy inputted by a steering shaft S105 for driving two differential steering shafts S105R and S105L;

- storage discharging device ESD101: comprised of a (dis) chargeable secondary battery or super capacitor;

- central control unit CCU101: comprised of mechanical-electric or solid-state electronic device, or a digital or analog central control circuit comprised of a micro-processor and its related software to be subject operation and setup by a manual control interface M101 to control the operation of the system;

- drive control device CD101: controlled by the manual control interface M101 and the central control unit CCU101 to operate both dynamo-electric units functioning as motors to execute control of startup, stop, speed variation or positive/negative rotation

and torque; or as generators to control power generation voltage, amperage, frequency and power performance, charging electric energy inputted to the storage discharging device ESD101 and electric energy outputted from the storage discharging device ESD101; and

- manual control interface M101: related to a digital or analog manual control interface comprised of mechanical-electric or solid-state electronic circuit to control the operation of the system via the central control unit CCU101 by manual operation; by combining those devices and mechanisms described above, the present invention executes some of or all the following functions:

(1) the primary dynamo-electric unit functioning as a starting motor, draws the activating side of the centrifugal clutch to close it and start the engine;

(2) the secondary dynamo-electric unit functioning as a starting motor, starts the engine;

(3) once the engine starts, the load is driven by controlling the operation of the centrifugal clutch or the manual, mechanical or electromagnetic or hydraulic force controlled power-locking or hydraulic force coupled type clutch;

(4) in addition to driving the load, the running engine continues to draw the secondary dynamo-electric unit to operate as a generator for driving the primary dynamo-electric unit to jointly drive the

load or to charge the storage discharging device
ESD101;

5 (5) the engine is running to drive the load while the
primary dynamo-electric unit functioning as a
motor with electric energy supplied from the
storage discharging device ESD101 to jointly
drive the load;

10 (6) during the down time of the primary
dynamo-electric unit, the engine runs to drive
the secondary dynamo-electric unit to function
as a generator so to charge the storage discharging
device ESD101 or output electric energy to other
loads;

15 (7) the running engine drives the secondary
dynamo-electric unit to generate power for
driving the primary dynamo-electric unit to
further drive the load or to simultaneously
charging the batteries or to output electric
energy to other loads;

20 (8) the primary dynamo-electric unit drives the load
at low speed as controlled by the electric energy
supplied from the storage discharging device via
a drive control device while the engine is not
running;

25 (9) the electric energy drive status including the
generation braking either by the primary or the
secondary dynamo-electric units or both at the
same time, the engine becomes a braking resistance
as drawn by the closed centrifugal clutch once
30 the sliding speed exceeds the preset value; or

(10) any related functions provided by other structures as described above.

2. A drive dynamo-electric unit speed controlled compound system as claimed in Claim 1, wherein, its operation patterns essentially comprised of:

A1: with the system standby and the engine not running, the manual control interface M101 is starts acceleration on the system, the primary dynamo-electric unit E101 is started to execute low speed drive operation to drive the load until the centrifugal clutch FC101 is closed to start the engine as drawn by the centrifugal clutch FC101 for the secondary dynamo-electric unit E102 either engages in generation output or stops generation as required;

Once the manual control interface M101 is executing acceleration on the throttle of the engine and a centrifugal clutch FC102 is provided for the system, the centrifugal clutch FC102 is closed to draw the steering shaft S104 on the load side thus to drive the load; or the closed centrifugal clutch FC101 is used to draw the steering shaft S104 on the load side to further drive the load; as the manual control interface M101 increases to accelerate the throttle, the engine rpm is further promoted to increase the power to drive the load, the primary dynamo-electric unit E101 may stop transmitted power or convert to function as a generator, or to input electric energy to operate as a motor to provide parallel pilot kinetic energy for the engine ICE101.

A2: With the system standby, the engine also is standby at low speed or is driving a peripheral load, e.g. air

conditioner or secondary air pump, the secondary dynamo-electric unit E102 executes generation output or stops generation;

When the manual control interface M101 starts to accelerate the system, the primary dynamo-electric unit E101 is activated to execute drive operation at low speed to drive the load;

Once the manual control interface M101 performs acceleration drive on the primary dynamo-electric unit E101 by controlling the electric energy supplied from the storage discharging device ESD101 or a generator, the manual control interface M101 synchronously accelerates the throttle on the engine; if the system is provided with a centrifugal clutch FC102, the engine rpm increases until the centrifugal clutch FC102 is closed to draw the steering shaft S104 on the load side, thus to drive load, or the centrifugal clutch FC102 connects the engine in parallel to drive the load when the primary dynamo-electric unit E101 accelerates until the centrifugal clutch FC101 is closed;

As the manual control interface M101 increases to accelerate the throttle, the engine rpm is further promoted to increase the power to drive the load, the primary dynamo-electric unit E101 may stop transmitted power or convert to function as a generator, or to input electric energy to operate as a motor to provide parallel pilot kinetic energy for the engine ICE101;

A3: With the system standby, the engine also is standby at constant speed or is driving a peripheral load, e.g. air conditioner or secondary air pump, the secondary

dynamo-electric unit E102 executes generation output or stops generation;

when the manual control interface M101 starts to accelerate the system by controlling the electric energy supplied from the storage discharging device ESD101 or a generator, the manual control interface M101 synchronously accelerates the throttle on the engine; if the system is provided with a centrifugal clutch FC102, the engine rpm increases until the centrifugal clutch FC102 is closed to draw the steering shaft S104 on the load side, thus to drive load, or the centrifugal clutch FC102 connects the engine in parallel to drive the load when the primary dynamo-electric unit E101 accelerates until the centrifugal clutch FC102 is closed.

3. A drive dynamo-electric unit speed controlled compound system as claimed in Claim 1, wherein, an application system by means of centrifugal clutch as the drive control is essentially comprised of a centrifugal clutch FC101 provided between a steering shaft S103 driven by an engine ICE101 and another steering shaft on the load side S104 for controlling both of the steering shaft S103 and another steering shaft S104 on the load side to couple or interrupt transmission; within, the steering shaft S103 driven by the engine ICE101 is coupled to the driven draw side of the centrifugal clutch FC101 while another steering shaft S104 on the load side is coupled to the drive draw side of the centrifugal clutch FC101 so that once the steering shaft S104 on the load side reaches the preset rpm, it drives to close the centrifugal clutch FC101, thus to draw the steering shaft S103 which is

directly driven by the engine ICE101 or through a fixed speed ratio or variable speed ratio, or variable steering device or planetary transmission mechanism T104; the steering shaft S104 on the load side is provided to drive the load, and a fixed speed ratio or variable speed ratio or variable steering transmission mechanism T102 is provided to the steering shaft S104 on the load side to engage in mutual transmission with a primary dynamo-electric unit E101;

- the load side steering shaft S104: is directly outputted to the load, or alternatively, to an output clutch CL101 controlled by manual, mechanical, electromagnetic, hydraulic or centrifugal force before being outputted to the load; or as required, to execute single shaft output through a fixed speed ratio or variable speed ratio, variable steering transmission or planetary transmission mechanism T103, then through a steering shaft S105; or an optional transmission mechanism comprised of a differential gear set DG for differential output through two units of differential steering shafts S105R and S105L;

- the engine ICE101: comprised of various known internal combustion engine and its related start-up and operation speed control device and peripheral interface devices including fuel system, air inlet & exhaust system, ignition system and cooling system to directly drive the steering shaft S103 or by way of fixed speed ratio or variable speed ratio or variable steering transmission mechanism or

planetary transmission mechanism T104;

- the fixed or variable speed ratio or variable steering transmission or planetary transmission mechanism T104: an optional mechanism comprised of various known coaxial or non-coaxial transmission, e.g. a fixed ratio speed or stage or stageless variable transmission mechanism comprised of a gear set, belt gear set or sprocket gear set or power-locking gear set;

- the primary dynamo-electric unit E101: essentially functioning as a motor and also as a secondary generator, related to a secondary motor of series excitation or pilot compound type secondary dynamo-electric unit with dynamo-electric unit characteristics that the speed becomes higher when the load gets smaller; or an AC or DC brush or brushless device that executes amperage control (including control of constant current) for the input electric energy to generate kinetic energy of rotation mechanical that increases torque as the load increases, or to other AC or DC, brush or brushless, synchronous or asynchronous inner rotor or outer rotor rotation dynamo-electric unit; the primary dynamo-electric unit E101 is coupled to the load side steering shaft S104 and to the drive draw side of the centrifugal clutch FC101 by means of a fixed or variable speed ratio or variable steering transmission or planetary transmission mechanism T102; and

- the secondary dynamo-electric unit E102: essentially functioning as a generator and also as a secondary

motor, comprised of an inner rotor or outer rotor rotation dynamo-electric unit generates AC or DC, brush or brushless, synchronous or asynchronous energy to convert kinetic energy of rotation mechanical into electric energy; the secondary dynamo-electric unit E102 is coupled to the steering shaft S103 driven by the engine ICE101 and the driven draw side of the centrifugal clutch FC102 by means of a fixed or variable speed ratio or variable steering transmission or planetary transmission mechanism T101, or the secondary dynamo-electric unit E102 is directly coupled to the steering shaft S103 of the engine;

the combination of those structures described above for the system are subject to control by the manual control interface M101, the central control unit CCU101, the drive control device CD101 and the storage discharging device ESD101; and the specific system structure described above provides functions related to those claimed in Claim 1 or other specific function, and operation patterns related to those claimed in Claim 2 or other specific operation pattern.

4. A drive dynamo-electric unit speed controlled compound system as claimed in Claim 1, wherein, an application system by means of centrifugal clutch as the drive control is essentially comprised of having connected in series a centrifugal clutch FC101 then another centrifugal clutch FC102 between the steering shaft S103 and the drive load side steering shaft S104 of the engine ICE101; the double acting centrifugal clutches FC101 and FC102 form

to each other or integrated into a 3-layer structure containing an inner layer, an intermediate layer and an outer layer; within, the inner layer and the inner side of the intermediate layer form the centrifugal clutch FC101, the inner layer incorporated to the load side steering shaft S104 drawn to each other is provided with a drive power-locking unit to act outward when the centrifugal force reaches a preset value; the outer side of the intermediate layer and the inner side of the outer layer form the centrifugal clutch FC102; the intermediate layer being coupled to the steering shaft S103 driven by the engine having its inner side provided with circumferential coupling surface for power-locking and its outer side provided with a drive power-locking unit acting outward when the centrifugal force reaches its preset value performs the functions as an output clutch with the power-locking circumferential coupling surface on the inner side of the outer layer; and the outer layer is also incorporated to the load side steering shaft S104 so to provide linkage with the load when the engine runs at low rpm or is temporarily cut off; the steering shaft S103 either directly driven or driven through a fixed speed ratio or variable speed ratio, or variable steering transmission mechanism or planetary transmission mechanism T104 by the engine is coupled to the driven draw side of the centrifugal clutch FC101 and the load side steering shaft S104 to the drive draw side of the centrifugal clutch FC101 so to forthwith close the centrifugal clutch FC101 and further to draw the steering shaft S103 driven by the engine ICE101 when the load side

steering shaft S104 reaches its preset rpm; alternatively, a fixed speed ratio or variable speed ratio, or variable steering transmission mechanism or planetary transmission mechanism T102 is provided on the load side steering shaft S104 to engage mutual transmission with the primary dynamo-electric unit;

- the load side steering shaft S104: is directly outputted to the load, or alternatively, to an output clutch CL101 controlled by manual, mechanical, electromagnetic, hydraulic or centrifugal force before being outputted to the load; or as required, to execute single shaft output through a fixed speed ratio or variable speed ratio, variable steering transmission or planetary transmission mechanism T103, then through a steering shaft S105; or an optional transmission mechanism comprised of a differential gear set DG for differential output through two units of differential steering shafts S105R and S105L;

- the engine ICE101: comprised of various known internal combustion engine and its related start-up and operation speed control device and peripheral interface devices including fuel system, air inlet & exhaust system, ignition system and cooling system to directly drive the steering shaft S103 or by way of fixed speed ratio or variable speed ratio or variable steering transmission mechanism or planetary transmission mechanism T104;

- the fixed or variable speed ratio or variable steering transmission or planetary transmission mechanism

T104: an optional mechanism comprised of various known coaxial or non-coaxial transmission, e.g. a fixed ratio speed or stage or stageless variable transmission mechanism comprised of a gear set, belt gear set or sprocket gear set or power-locking gear set,

- the primary dynamo-electric unit E101: essentially functioning as a motor and also as a secondary generator, related to a secondary motor of series excitation or pilot compound type secondary dynamo-electric unit with dynamo-electric unit characteristics that the speed becomes higher when the load gets smaller; or an AC or DC brush or brushless device that executes amperage control (including control of constant current) for the input electric energy to generate kinetic energy of rotation mechanical that increases torque as the load increases, or to other AC or DC, brush or brushless, synchronous or asynchronous inner rotor or outer rotor rotation dynamo-electric unit; the primary dynamo-electric unit E101 is coupled to the load side steering shaft S104 and to the drive draw side of the centrifugal clutch FC101 by means of a fixed or variable speed ratio or variable steering transmission or planetary transmission mechanism T102; and

- the secondary dynamo-electric unit E102: essentially functioning as a generator and also as a secondary motor, comprised of an inner rotor or outer rotor rotation dynamo-electric unit generates AC or DC, brush or brushless, synchronous or asynchronous

energy to convert kinetic energy of rotation
mechanical into electric energy; the secondary
dynamo-electric unit E102 is coupled to the steering
shaft S103 driven by the engine ICE101 and the driven
draw side of the centrifugal clutch FC102 by means
of a fixed or variable speed ratio or variable steering
transmission or planetary transmission mechanism
T101, or the secondary dynamo-electric unit E102 is
directly coupled to the steering shaft S103 of the
engine;

the combination of those structures described above for
the system are subject to control by the manual control
interface M101, the central control unit CCU101, and
the drive control device CD101 and the storage
discharging device ESD101; the specific system
structure described above provides functions related
to those claimed in Claim 1 or other specific function,
and operation patterns related to those claimed in Claim
2 or other specific operation.

5. A drive dynamo-electric unit speed controlled compound
system as claimed in Claim 1, wherein, an application
system by means of centrifugal clutch as the drive control
is essentially comprised of having coupled to an
intermediate steering shaft S102 the fixed speed ratio
or variable speed ratio or variable steering transmission
mechanism or planetary transmission mechanism T102, the
power-locking coupling surface on the outer
circumference of the double-acting centrifugal clutch
FC101 and the outer circumference power-locking surface
of the double-acting centrifugal clutch FC102 as claimed

in Claim 4; those double-acting centrifugal clutches are comprised of two units of centrifugal clutches FC101 and FC102 incorporated to each other forming a three-layer structure containing the inner, the intermediate and the outer layers. Within, the inner layer and the inner side of the intermediate layer form the centrifugal clutch FC101, the inner layer and the inner side of the intermediate layer incorporated to the intermediate steering shaft S102 drawn to each other is provided with a drive power-locking unit to act outward when the centrifugal force reaches a preset value; the outer side of the intermediate layer and the inner side of the outer layer form the centrifugal clutch FC102; the intermediate layer being coupled to the steering shaft S103 driven by the engine having its inner side provided with circumferential coupling surface for power-locking and its outer side provided with a drive power-locking unit acting outward when the centrifugal force reaches its preset value performs the functions as an output clutch with the power-locking circumferential coupling surface on the inner side of the outer layer; and the outer layer is also incorporated to the intermediate steering shaft S102 so to provide linkage with the load when the engine runs at low rpm or is temporarily cut off; the steering shaft S103 either directly driven or driven through a fixed speed ratio or variable speed ratio, or variable steering transmission mechanism or planetary transmission mechanism T104 by the engine is coupled to the driven draw side of the centrifugal clutch FC101 and the intermediate steering shaft S102 to the drive draw

side of the centrifugal clutch FC101 so to forthwith close the centrifugal clutch FC101 and further to draw the steering shaft S103 driven by the engine ICE101 when the intermediate steering shaft S102 reaches its preset rpm;

5 - the intermediate steering shaft S102: is directly outputted to the load, or alternatively, to an output clutch CL301 controlled by manual, mechanical, electromagnetic, hydraulic or centrifugal force before being outputted to the load; or as required, 10 to execute single shaft output through a fixed speed ratio or variable speed ratio, variable steering transmission or planetary transmission mechanism T103, then through a steering shaft S105; or an optional transmission mechanism comprised of a 15 differential gear set DG for differential output through two units of differential steering shafts S105R and S105L; the additional output clutch CL301 is provided between the intermediate steering shaft S102 and the load side steering shaft S104 with both 20 steering shafts driven by the power-locking coupling surfaces on the inner and outer circumferences of the double-acting centrifugal clutches FC101 and FC102;

25 - the engine ICE101: comprised of various known internal combustion engine and its related start-up and operation speed control device and peripheral interface devices including fuel system, air inlet & exhaust system, ignition system and cooling system to directly drive the steering shaft S103 or by way 30 of fixed speed ratio or variable speed ratio or

variable steering transmission mechanism or planetary transmission mechanism T104;

- the fixed or variable speed ratio or variable steering transmission or planetary transmission mechanism T104: an optional mechanism comprised of various known coaxial or non-coaxial transmission, e.g. a fixed ratio speed or stage or stageless variable transmission mechanism comprised of a gear set, belt gear set or sprocket gear set or power-locking gear set;

- the primary dynamo-electric unit E101: essentially functioning as a motor and also as a secondary generator, related to a secondary motor of series excitation or pilot compound type secondary dynamo-electric unit with dynamo-electric unit characteristics that the speed becomes higher when the load gets smaller; or an AC or DC brush or brushless device that executes amperage control (including control of constant current) for the input electric energy to generate kinetic energy of rotation mechanical that increases torque as the load increases, or to other AC or DC, brush or brushless, synchronous or asynchronous inner rotor or outer rotor rotation dynamo-electric unit; the primary dynamo-electric unit E101 is coupled to the intermediate steering shaft S102, which in turn incorporated to the centrifugal clutch FC101 by means of a fixed or variable speed ratio or variable steering transmission or planetary transmission mechanism T102; and

- the secondary dynamo-electric unit E102: essentially

functioning as a generator and also as a secondary motor, comprised of an inner rotor or outer rotor rotation dynamo-electric unit generates AC or DC, brush or brushless, synchronous or asynchronous energy to convert kinetic energy of rotation mechanical into electric energy; the secondary dynamo-electric unit E102 is coupled to the centrifugal clutch FC101 and the steering shaft S103 of the engine ICE101 by means of a fixed or variable speed ratio or variable steering transmission or planetary transmission mechanism T101, or the secondary dynamo-electric unit E102 is directly coupled to the steering shaft S103 of the engine; the combination of those structures described above for the system subject to control by the manual control interface M101, the central control unit CCU101, the drive control device CD101 and the storage discharging device ESD101 provides the same functions as those as claimed in Claim 4 when the output clutch CL301 is closed; and additional functions when the output clutch CL301 is disengaged, including functions related to those claimed in Claim 1 or other specific function, and operation patterns related to those claimed in Claim 2 or other operation pattern.

6. A drive dynamo-electric unit speed controlled compound system as claimed in Claim 1, wherein, an application system by means of centrifugal clutch as the drive control is essentially comprised of having the dynamo-electric unit E101 and the load side steering shaft S104 to indicate coaxial structure; a structure of the double-acting

SECRET

centrifugal clutches FC101 and FC102 provided between the dynamo-electric unit E101 and the engine ICE101 has its inner layer and outer layer incorporated to the load side steering shaft S104 coupled to the output shaft of the primary dynamo-electric unit E101 and its intermediate layer incorporated to the steering shaft S103 driven by the engine ICE101; the double-acting centrifugal clutches are comprised of two centrifugal FC101 and FC102 incorporated to each other forming a three-layer structure containing the inner, the intermediate and the outer layers; within, the inner layer and the inner side of the intermediate layer form the centrifugal clutch FC101, the inner layer and the inner side of the intermediate layer incorporated to the intermediate steering shaft S102 drawn to each other is provided with a drive power-locking unit to act outward when the centrifugal force reaches a preset value; the outer side of the intermediate layer and the inner side of the outer layer form the centrifugal clutch FC102; the intermediate layer being coupled to the steering shaft S103 driven by the engine having its inner side provided with circumferential coupling surface for power-locking and its outer side provided with a drive power-locking unit acting outward when the centrifugal force reaches its preset value performs the functions as an output clutch with the power-locking circumferential coupling surface on the inner side of the outer layer; and the outer layer is also incorporated to the load side steering shaft S104 so to provide linkage with the load when the engine runs at low rpm or is temporarily cut

off; the ICE101 is directly or by means of a steering shaft S103 driven by a fixed speed ratio or variable speed ratio, or variable steering transmission mechanism or planetary transmission mechanism T104 and the load side steering shaft S102 is incorporated to the drive draw side of the centrifugal clutch FC101 so to forthwith close the centrifugal clutch FC101 and further to draw the steering shaft S103 driven by the engine ICE101 when the load side steering shaft S102 reaches its preset rpm;

- the engine ICE101: comprised of various known internal combustion engine and its related start-up and operation speed control device and peripheral interface devices including fuel system, air inlet & exhaust system, ignition system and cooling system to directly drive the steering shaft S103 or by way of fixed speed ratio or variable speed ratio or variable steering transmission mechanism or planetary transmission mechanism T104;
- the fixed or variable speed ratio or variable steering transmission or planetary transmission mechanism T104: an optional mechanism comprised of various known coaxial or non-coaxial transmission, e.g. a fixed ratio speed or stage or stageless variable transmission mechanism comprised of a gear set, belt gear set or sprocket gear set or power-locking gear set,
- the primary dynamo-electric unit E101: essentially functioning as a motor and also as a secondary generator, related to a secondary motor of series excitation or pilot compound type secondary

SECRET

dynamo-electric unit with dynamo-electric unit characteristics that the speed becomes higher when the load gets smaller; or an AC or DC brush or brushless device that executes amperage control (including control of constant current) for the input electric energy to generate kinetic energy of rotation mechanical that increases torque as the load increases, or to other AC or DC, brush or brushless, synchronous or asynchronous inner rotor or outer rotor rotation dynamo-electric unit; the primary dynamo-electric unit E101 is coupled to the load side steering shaft S104 and to the drive draw side of the centrifugal clutch FC101 by means of a fixed or variable speed ratio or variable steering transmission or planetary transmission mechanism T102; and the load side steering shaft S104 is forthwith outputted to the load, or as required, to execute uniaxial output by a selected fixed speed ratio or variable speed ratio or variable steering transmission mechanism or planetary transmission mechanism T103 through the steering shaft S105, or alternatively, a transmission mechanism comprised of a differential gear set DG to execute differential output through two units of differential steering shafts S105R and S105L;

- the secondary dynamo-electric unit E102: essentially functioning as a generator and also as a secondary motor, comprised of an inner rotor or outer rotor rotation dynamo-electric unit generates AC or DC, brush or brushless, synchronous or asynchronous energy to convert kinetic energy of rotation

mechanical into electric energy; the secondary
dynamo-electric unit E102 is coupled to the steering
shaft S103 of the engine ICE101 and the centrifugal
clutch FC101 by means of a fixed or variable speed
ratio or variable steering transmission or planetary
transmission mechanism T101, or the secondary
dynamo-electric unit E102 is directly coupled to the
steering shaft S103 of the engine; and

- the output clutch CL101: an optional mechanism
provided between the output side of the primary
dynamo-electric unit E101 and the fixed or variable
speed ratio or variable steering transmission or
planetary transmission mechanism T103, the output
clutch CL101 is controlled by manual, mechanical,
electromagnetic or hydraulic or centrifugal force;
the combination of those structures described above for
the system are subject to control by the manual control
interface M101, the central control unit CCU101, the
drive control device CD101 and the storage discharging
device ESD101; and the specific system structure
described above provides functions related to those
claimed in Claim 1 or other specific function, and
patterns related to those claimed in Claim 2 or other
specific operation pattern.

7. A drive dynamo-electric unit speed controlled compound
power system as claimed in Claim 6, wherein, the primary
dynamo-electric unit is replaced with two units of
dynamo-electric units respectively provided on the
output shaft sides of the differential gear set; the
primary dynamo-electric unit E101 as claimed in Claim

6 is replaced by a primary dynamo-electric unit E101R to the right and another primary dynamo-electric unit E101L on the left; the primary dynamo-electric unit E101R is directly connected in series with a steering shaft S105R to the right of a differential gear set DG or alternatively adapted with a one-way or two-way clutch CLU before being connected in series to the steering shaft S105R to the right of the differential gear set DG; the other primary dynamo-electric unit E101L is directly connected in series with a steering shaft S105L to the left of a differential gear set DG or alternatively adapted with a one-way or two-way clutch CLU before being connected in series to the steering shaft S105L to the left of the differential gear set DG; the steering shaft S104 on the load side of the centrifugal clutch FC101 is directly outputted to the steering shaft S105 of the differential gear set DG, or through the fixed or variable speed ratio or variable steering transmission or planetary transmission mechanism T103 before being outputted to the steering shaft S105 of the differential gear set DG, or alternatively, by means of the output clutch CL101 controlled by manual, mechanical, electromagnetic, hydraulic or centrifugal force before being outputted to the steering shaft S105 of the differential gear set DG. Both of the primary dynamo-electric units E101R and another primary dynamo-electric unit E101L are subject to equal speed or differential drive by the drive control device CD101.

8. A drive dynamo-electric unit speed controlled compound power system as claimed in Claim 1, wherein, the

centrifugal clutch FC101 and another clutch CL102 controlled by manual, mechanical, electromagnetic, hydraulic power-locking type of or hydraulic coupling type are provided between the engine steering shaft S103 and the load side steering shaft S104 so to execute power coupling or interruption on both of the engine steering shaft S103 and the load side steering shaft S104 for the system to be equipped with a power-locking type or hydraulic coupling type controllable clutch CL102 and engine throttle, to further acquire another specific function for the engine rotation power driven load; the steering shaft S103 either directly driven by the engine ICE101, or through a fixed or variable speed ratio or variable steering transmission or planetary transmission mechanism T104 is coupled to the driven draw side of the centrifugal clutch FC101 while the load side steering shaft S104 to the drive draw side of the centrifugal clutch FC101; once the load-side steering shaft S104 reaches the preset rpm, the centrifugal clutch FC101 is forthwith closed to draw the steering shaft S103 driven by the engine ECE101; the centrifugal clutch FC101 and the controllable clutch CL102 is individually provided or sharing the same structure.

- the engine ICE101: comprised of various known internal combustion engine and its related start-up and operation speed control device and peripheral interface devices including fuel system, air inlet & exhaust system, ignition system and cooling system to directly drive the steering shaft S103 or by way of fixed speed ratio or variable speed ratio or

variable steering transmission mechanism or planetary transmission mechanism T104;

- the fixed or variable speed ratio or variable steering transmission or planetary transmission mechanism T104: an optional mechanism comprised of various known coaxial or non-coaxial transmission, e.g. a fixed ratio speed or stage or stageless variable transmission mechanism comprised of a gear set, belt gear set or sprocket gear set or power-locking gear set,

- the primary dynamo-electric unit E101: essentially functioning as a motor and also as a secondary generator, related to a secondary motor of series excitation or pilot compound type secondary dynamo-electric unit with dynamo-electric unit characteristics that the speed becomes higher when the load gets smaller; or an AC or DC brush or brushless device that executes amperage control (including control of constant current) for the input electric energy to generate kinetic energy of rotation mechanical that increases torque as the load increases, or to other AC or DC, brush or brushless, synchronous or asynchronous inner rotor or outer rotor rotation dynamo-electric unit; the steering shaft S101 of the primary dynamo-electric unit E101 is coupled to the load side steering shaft S104 of the centrifugal clutch FC101 by means of a fixed or variable speed ratio or variable steering transmission or planetary transmission mechanism T102; and

- the secondary dynamo-electric unit E102: essentially

functioning as a generator and also as a secondary motor, comprised of an inner rotor or outer rotor rotation dynamo-electric unit generates AC or DC, brush or brushless, synchronous or asynchronous energy to convert kinetic energy of rotation mechanical into electric energy; the secondary dynamo-electric unit E102 is coupled to the steering shaft S103 of the engine ICE101 and the centrifugal clutch FC101 by means of a fixed or variable speed ratio or variable steering transmission or planetary transmission mechanism T101, or the secondary dynamo-electric unit E102 is directly coupled to the steering shaft S103 of the engine;

the combination of those structures described above for the system are subject to control by the manual control interface M101, the central control unit CCU101, the drive control device CD101 and the storage discharging device ESD101 and the specific system structure described above provides functions related to those claimed in Claim 1 or other specific function, and patterns related to those claimed in Claim 2 or other specific operation pattern.

9. A drive dynamo-electric unit speed controlled compound power system as claimed in Claim 8, wherein, an output clutch CL101 controlled by manual, mechanical, electromagnetic, and hydraulic or centrifugal force is provided between the load side steering shaft S104 driven by the primary dynamo-electric unit E101 and the load. When the output clutch CL101 is closed, it provides the same function as those by the preferred embodiment

illustrated in Fig. 6; and additional functions when the output clutch CL101 is disengaged, including being separated from the load to leave the engine to simultaneously drive the first and the second dynamo-electric units E101 and E102 to function as generators, or to drive the primary dynamo-electric E101 alone to operate as a generator while the primary dynamo-electric unit E101 is provided between the output clutch CL101 and the controllable clutch CL102; as well as functions related to those claimed in Claim 1 or other specific functions and operation patterns related to those claimed in Claim 2 or other specific operation patterns.

10. A drive dynamo-electric unit speed controlled compound power system as claimed in Claim 9, wherein, the primary dynamo-electric unit replaced by two independent dynamo-electric units respectively provided on the side of two output shafts of a differential gear set; within, the primary dynamo-electric unit E101 as claimed in Claim 9 is replaced by a primary dynamo-electric unit E101R to the right and another primary dynamo-electric unit E101L on the left; the primary dynamo-electric unit E101R to the right is directly connected in series with the steering shaft S105R to the right of the differential gear set DG, or alternatively, a one-way or two-way alternatively adapted with a one-way or two-way clutch CLU before being connected in series to the steering shaft S105R to the right of the differential gear set DG; the other primary dynamo-electric unit E101L on the left is directly connected in series with a steering shaft S105L

to the left of a differential gear set DG or alternatively adapted with a one-way or two-way clutch CLU before being connected in series to the steering shaft S105L to the left of the differential gear set DG; the steering shaft S104 on the load side of the centrifugal clutch FC101 is directly outputted to the steering shaft S105 of the differential gear set DG, or through the fixed or variable speed ratio or variable steering transmission or planetary transmission mechanism T103 before being outputted to the steering shaft S105 of the differential gear set DG, or alternatively, by means of the output clutch CL101 controlled by manual, mechanical, electromagnetic, hydraulic or centrifugal force before being outputted to the steering shaft S105 of the differential gear set DG. Both of the primary dynamo-electric unit E101R to the right and the other primary dynamo-electric unit E101L on the left are subject to equal speed or differential drive by a drive control device CD101 to provide the same functions as those as claimed in Claim 9.

11. A drive dynamo-electric unit speed controlled compound power system as claimed in Claim 1, including application system having the centrifugal clutch provided in opposite direction as the drive control, essentially comprised of having provided the centrifugal clutch FC101 between the steering shaft S103 driven by the engine ICE101 and the load side steering shaft S104 to control the operation of coupling or interruption the transmission by both of the steering shafts S103 and S104. Within, the steering shaft S103 driven by the engine ICE101 is coupled to the

drive draw side of the centrifugal clutch FC101 and the load side steering shaft S104 is coupled to the driven draw side of the centrifugal clutch FC101 so that once the steering shaft S103 which is directly driven by the engine ICE101 or through a fixed speed ratio or variable speed ratio, or variable steering device or planetary transmission mechanism T104 reaches the preset rpm, it drives to close the centrifugal clutch FC101, thus to draw the load side steering shaft S104; the steering shaft S104 on the load side is provided to drive the load, and a fixed speed ratio or variable speed ratio or variable steering transmission mechanism T102 is provided to the steering shaft S104 on the load side to engage in mutual transmission with a primary dynamo-electric unit E101; and furthermore, the incorporating relationship among the adapted load side steering shaft S104, the engine ICE101, the variable steering or planetary transmission mechanism T104 with fixed or variable speed ratio, the primary and the secondary dynamo-electric units E101 and E102 is identical with that as claimed in Claim 4; the combination of those structures described above for the system are subject to control by the manual control interface M101, the central control unit CCU101, the drive control device CD101 and the storage discharging device ESD101; and the specific system structure described above provides functions related to those claimed in Claim 1 or other specific function, and specific patterns related to those claimed in Claim 3 or other specific operation pattern.

12. A drive dynamo-electric unit speed controlled compound

0998278-101001

power system as claimed in Claim 1, including application system having the centrifugal clutch provided in opposite direction as the drive control, essentially comprised of having connected in series a centrifugal clutch FC101 then another centrifugal clutch FC102 between the steering shaft S103 and the drive load side steering shaft S104 of the engine ICE101; the double acting centrifugal clutches FC101 and FC102 form to each other or integrated into a 3-layer structure containing an inner layer, an intermediate layer and an outer layer; within, the inner layer and the inner side of the intermediate layer form the centrifugal clutch FC101, the inner layer incorporated to the load side steering shaft S103 of the engine ICE101 drawn to each other is provided with a drive power-locking unit to act outward when the centrifugal force reaches a preset value; the outer side of the intermediate layer and the inner side of the outer layer form the centrifugal clutch FC102; the intermediate layer being coupled to the load side steering shaft S104 having its inner side provided with circumferential coupling surface for power-locking and its outer side provided with a drive power-locking unit acting outward when the centrifugal force reaches its preset value performs the functions as an output clutch with the power-locking circumferential coupling surface on the inner side of the outer layer; and the outer layer is also incorporated to the steering shaft S103 on the side of the engine ICE101 so to provide linkage with the load when the engine runs at low rpm or is temporarily cut off; the steering shaft S103 either directly driven or driven through a fixed

power system as claimed in Claim 1, including application system having the centrifugal clutch provided in opposite direction as the drive control, essentially comprised of having alternatively provided an output clutch CL301 controlled by manual, mechanical, electromagnetic or hydraulic force between the steering shaft S103 on the side of the engine ICE101 as claimed in Claim 12 and where between the drive draw side of the double-acting centrifugal clutch FC101 and the driven draw side of the other centrifugal clutch FC102, and subject to the control by the manual control interface M101, the central control unit CCU101, the drive control device CD101 and the storage discharging device ESD101 to provide the same functions as those claimed in Claim 12 when the output clutch CL301 is closed; and when the output clutch CL301 is disengaged, to provide additional functions including functions related to those as claimed in Claim 1 or other specific function, and operation patterns related to those claimed in Claim 2 or other specific operation pattern.

14. A drive dynamo-electric unit speed controlled compound power system as claimed in Claim 1, including application system having the centrifugal clutch provided in opposite direction as the drive control, essentially comprised of having the dynamo-electric unit E101 and the load side steering shaft S104 to indicate coaxial structure while the double-acting centrifugal clutches FC101 and FC102 are provided between the dynamo-electric unit E101 and the engine ICE101, within, its intermediate structure is provided to be incorporated to the load side steering

TOP SECRET

shaft S104 in the same structure of the output shaft of
the primary dynamo-electric unit E101, and its inner and
outer layers incorporated to the engine steering shaft
S103; the double acting centrifugal clutches FC101 and
5 FC102 form to each other or integrated into a 3-layer
structure containing an inner layer, an intermediate
layer and an outer layer. Within, the inner layer and
the inner side of the intermediate layer form the
centrifugal clutch FC101, the inner layer incorporated
10 to the engine steering shaft S103 drawn to each other
is provided with a drive power-locking unit to act outward
when the centrifugal force reaches a preset value; the
outer side of the intermediate layer and the inner side
of the outer layer form the centrifugal clutch FC102;
15 the intermediate layer being coupled to the steering shaft
S103 driven by the primary dynamo-electric unit E101
having its inner side provided with circumferential
coupling surface for power-locking and its outer side
provided with a drive power-locking unit acting outward
20 when the centrifugal force reaches its preset value
performs the functions as an output clutch with the
power-locking circumferential coupling surface on the
inner side of the outer layer; the drive draw side of
the centrifugal clutch FC101 is incorporated to the
25 steering shaft S103 on the side of the engine ICE101 so
to couple to the engine to drive the load when the engine
runs at high rpm, and to cut off the linkage to the load
when the engine runs at low rpm; the engine ICE101 is
either directly or by means of the steering shaft S103
30 driven by a fixed speed ratio or variable speed ratio,

or variable steering transmission mechanism or planetary transmission mechanism T104, coupled to the drive draw side of the centrifugal clutch FC101 and the driven draw side of the other centrifugal clutch FC102; meanwhile, the load side steering shaft S104 is coupled to the driven draw side of the centrifugal clutch FC101 and the drive draw side of the other centrifugal clutch FC102 so that when the load side steering shaft S104 reaches its preset rpm, the other centrifugal clutch FC102 is closed thus to draw the steering shaft S103 driven by the engine ICE101, or when the steering shaft S103 on the side of the engine ICE101 reaches its preset rpm, the centrifugal clutch FC101 is closed, thus to draw the load side steering shaft S104 to drive the load; and furthermore, the incorporating relationship among the adapted engine ICE101, the variable steering or planetary transmission mechanism T104 with fixed or variable speed ratio, the primary and the secondary dynamo-electric units E101 and E102, and the output clutch CL101 is identical with that as claimed in Claim 5;

the combination of those structures described above for the system are subject to control by the manual control interface M101, the central control unit CCU101, the drive control device CD101 and the storage discharging device ESD101; and the specific system structure described above provides functions related to those claimed in Claim 1 or other specific function, and specific patterns related to those claimed in Claim 2 or other specific operation pattern.

15. A drive dynamo-electric unit speed controlled compound

0000434004

system as claimed in Claim 11, wherein, a controllable clutch by having provided a centrifugal clutch FC101 and a controllable CL102 controlled by manual, mechanical, electromagnetic, hydraulic power-locking type of or hydraulic coupling type is provided between the engine steering shaft S103 and the load side steering shaft S104 so to execute power coupling or interruption on both of the engine steering shaft S103 and the load side steering shaft S104 for the system to be equipped with a power-locking type or hydraulic coupling type controllable clutch CL102 and engine throttle, to further acquire another specific function for the engine rotation power driven load; the steering shaft S103 either directly driven by the engine ICE101, or through a fixed or variable speed ratio or variable steering transmission or planetary transmission mechanism T104 is coupled to the driven drawn side of the centrifugal clutch FC101 while the load side steering shaft S104 to the drive draw side of the centrifugal clutch FC101; once the steering shaft S103 on the side of the engine ICE101 reaches its preset rpm, the centrifugal clutch FC101 is forthwith closed to draw the load side steering shaft S104; the centrifugal clutch FC101 and the controllable clutch CL102 is individually provided or sharing the same structure; and other units comprising the system are the same as those claimed in Claim 3. and furthermore, the incorporating relationship among the adapted load side steering shaft S104, the engine ICE101, the variable steering or planetary transmission mechanism T104 with fixed or variable speed ratio, the primary and the secondary

dynamo-electric units E101 and E102 is identical with that as claimed in Claim 3;

the combination of those structures described above for the system are subject to control by the manual control interface M101, the central control unit CCU101, the drive control device CD101 and the storage discharging device ESD101; and the specific system structure described above provides functions related to those claimed in Claim 1 or other specific function, and specific patterns related to those claimed in Claim 2 or other specific operation pattern.

17. A drive dynamo-electric unit speed controlled compound power system as claimed in Claim 16, wherein, an output clutch CL101 controlled by manual, mechanical, electromagnetic, and hydraulic or centrifugal force is provided between the load side steering shaft S104 driven by the primary dynamo-electric unit E101 and the load; when the output clutch CL101 is closed, it provides the same function as those by the preferred embodiment illustrated in Fig. 14; and additional functions when the output clutch CL101 is disengaged, including being separated from the load to leave the engine to simultaneously drive the first and the second dynamo-electric units E101 and E102 to function as generators, or to drive the primary dynamo-electric E101 alone to operate as a generator while the primary dynamo-electric unit E101 is provided between the output clutch CL101 and the controllable clutch CL102; as well as functions related to those claimed in Claim 1 or other specific function, and operation patterns related to

those claimed in Claim 2 or other specific operation pattern.

18. A drive dynamo-electric unit speed controlled compound power system as claimed in Claim 17, wherein, the primary dynamo-electric unit is replaced by two independent dynamo-electric units respectively provided on the side of two output shafts of a differential gear set, essentially comprised of the primary dynamo-electric unit E101 as claimed in Claim 17 is replaced by a primary dynamo-electric unit E101R to the right and another primary dynamo-electric unit E101L on the left; the primary dynamo-electric unit E101R to the right is directly connected in series with the steering shaft S105R to the right of the differential gear set DG, or alternatively, a one-way or two-way alternatively adapted with a one-way or two-way clutch CLU before being connected in series to the steering shaft S105R to the right of the differential gear set DG. The other primary dynamo-electric unit E101L on the left is directly connected in series with a steering shaft S105L to the left of a differential gear set DG or alternatively adapted with a one-way or two-way clutch CLU before being connected in series to the steering shaft S105L to the left of the differential gear set DG; the steering shaft S104 on the load side of the centrifugal clutch FC101 is directly outputted to the steering shaft S105 of the differential gear set DG, or through the fixed or variable speed ratio or variable steering transmission or planetary transmission mechanism T103 before being outputted to the steering shaft S105 of the differential

gear set DG, or alternatively, by means of the output clutch CL101 controlled by manual, mechanical, electromagnetic, hydraulic or centrifugal force before being outputted to the steering shaft S105 of the differential gear set DG; both of the primary dynamo-electric unit E101R to the right and the other primary dynamo-electric unit E101L on the left are subject to equal speed or differential drive by a drive control device CD101 to provide the same functions as those claimed in Claim 17.

19. A drive dynamo-electric unit speed controlled compound power system as claimed in Claim 11, wherein, the primary dynamo-electric unit E101 and the load side steering shaft S104 are provided in the same structure, essentially comprised of having provided the centrifugal clutch FC101 between the steering shaft S103 and the load side steering shaft S104 of the engine ICE101 to control the operation of coupling or interruption the transmission by both of the steering shafts S103 and S104; within, the steering shaft S103 driven by the engine ICE101 is coupled to the drive draw side of the centrifugal clutch FC101 and the load side steering shaft S104 is coupled to the driven draw side of the centrifugal clutch FC101 so that once the steering shaft S103 which is directly driven by the engine ICE101 or through a fixed speed ratio or variable speed ratio, or variable steering device or planetary transmission mechanism T104 reaches the preset rpm, it drives to close the centrifugal clutch FC101, thus to draw the load side steering shaft S104; the steering shaft S104 on the load side is provided to drive the load, and

shares the coaxial structure with the primary
dynamo-electric unit E101;

- the load side steering shaft S104: is directly
outputted to the load, or alternatively, to an output
clutch CL101 controlled by manual, mechanical,
electromagnetic, hydraulic or centrifugal force
before being outputted to the load; or as required,
to execute single shaft output through a fixed speed
ratio or variable speed ratio, variable steering
transmission or planetary transmission mechanism
T103, then through a steering shaft S105; or an
optional transmission mechanism comprised of a
differential gear set DG for differential output
through two units of differential steering shafts
S105R and S105L;
- the engine ICE101: comprised of various known internal
combustion engine and its related start-up and
operation speed control device and peripheral
interface devices including fuel system, air inlet
& exhaust system, ignition system and cooling system
to directly drive the steering shaft S103 or by way
of fixed speed ratio or variable speed ratio or
variable steering transmission mechanism or
planetary transmission mechanism T104;
- the fixed or variable speed ratio or variable steering
transmission or planetary transmission mechanism
T104: an optional mechanism comprised of various known
coaxial or non-coaxial transmission, e.g. a fixed
ratio speed or stage or stageless variable
transmission mechanism comprised of a gear set, belt

gear set or sprocket gear set or power-locking gear set;

- the primary dynamo-electric unit E101: essentially functioning as a motor and also as a secondary generator, related to a secondary motor of series excitation or pilot compound type secondary dynamo-electric unit with dynamo-electric unit characteristics that the speed becomes higher when the load gets smaller; or an AC or DC brush or brushless device that executes amperage control (including control of constant current) for the input electric energy to generate kinetic energy of rotation mechanical that increases torque as the load increases, or to other AC or DC, brush or brushless, synchronous or asynchronous inner rotor or outer rotor rotation dynamo-electric unit; the primary dynamo-electric unit E101 shares the coaxial structure with the load side steering shaft S104 and is coupled to the driven draw side of the centrifugal clutch FC101;

the combination of those structures described above for the system are subject to control by the manual control interface M101, the central control unit CCU101, the drive control device CD101 and the storage discharging device ESD101; and the specific system structure described above provides functions related to those as claimed in Claim 1 or other specific function, and operation patterns related to those operation claimed in Claim 2 or other specific operation patterns.

20. A drive dynamo-electric unit speed controlled compound power system as claimed in Claim 19, wherein, a secondary

dynamo-electric unit E102 which is directly coupled to the steering shaft S103 of the engine ICE101 or engaging in mutual transmission with the steering shaft S103 of the engine ICE101 by means of a variable steering or planetary transmission mechanism T101 with fixed or variable speed ratio so to function at the same time as a generator and as a motor; within,

- the secondary dynamo-electric unit E102: essentially functioning as a generator and also as a secondary motor, comprised of an inner rotor or outer rotor rotation dynamo-electric unit generates AC or DC, brush or brushless, synchronous or asynchronous energy to convert kinetic energy of rotation mechanical into electric energy; the secondary dynamo-electric unit E102 is coupled to the centrifugal clutch FC101 and the steering shaft S103 driven by the engine ICE101 and to the drive draw side of the centrifugal clutch FC101 by means of a fixed or variable speed ratio or variable steering transmission or planetary transmission mechanism T101, or the secondary dynamo-electric unit E102 is directly coupled to the steering shaft S103 of the engine;

the combination of those structures described above for the system are subject to control by the manual control interface M101, the central control unit CCU101, the drive control device CD101 and the storage discharging device ESD101; and the specific system structure described above provides functions related to those as claimed in Claim 1 or other specific function, and

operation patterns related to those operation claimed in Claim 2 or other specific operation patterns.

21. A drive dynamo-electric unit speed controlled compound power system as claimed in Claim 19 or 20, wherein. the primary dynamo-electric unit E101 is further replaced by two independent units of the primary dynamo-electric unit E101R to the right and another primary dynamo-electric unit E101L on the left; within, the primary dynamo-electric unit E101R to the right is directly connected in series with the steering shaft S105R to the right of the differential gear set DG, or alternatively, adapted with a one-way or two-way clutch CLU before being connected in series to the steering shaft S105R to the right of the differential gear set DG while the primary dynamo-electric unit E101L on the left is directly connected in series with the steering shaft S105L to the left of the differential gear set DG, or alternatively, adapted with a one-way or two-way clutch CLU before being connected in series to the steering shaft S105L to the left of the differential gear set DG; the load side steering shaft S104 of the centrifugal clutch FC101 is directly or through the fixed ratio or variable speed ratio or variable steering transmission mechanism or planetary transmission mechanism T103 outputted to the steering shaft S105 of the differential gear set DG, or alternatively, outputted to the output clutch CL101 before being outputted to the steering shaft S105 of the differential gear set DG; meanwhile, both of the primary dynamo-electric units E101R and E101L respectively to the right and the left are subject to drive at equal speed

or differential drive by the drive control device CD101.

22. A drive dynamo-electric unit speed controlled compound power system as claimed in Claim 1, wherein, an automatic transmission mechanism T1040 is provided between the engine ICE101 and the drive shaft S103 to comply with demands on performance or structural space, essentially comprised of:

- the automatic transmission mechanism T1040 comprised of automatic transmission belt gear set (CTV) or other known automatic transmission device is provided between the engine ICE101 and the steering shaft S103; a centrifugal clutch FC103 is provided between the steering shaft S103 and the load side steering shaft S104 to control the operation of transmission coupling or transmission interruption of both the steering shaft S103 and the load side steering shaft S104; within, the steering shaft S103 driven by the engine ICE101 is provided to drive the automatic transmission mechanism T1040 before being coupled to the drive draw side of the centrifugal clutch FC103 by the structure of the output terminal of the automatic transmission mechanism T1040 while the load side steering shaft S104 is coupled to the driven draw side of the centrifugal clutch FC103 so that the centrifugal clutch FC103 is forthwith closed to draw the load side steering shaft S104 once the structure of the output terminal of the automatic transmission mechanism reaches its preset rpm;
- the load side steering shaft S104: configurations of the output structure comprised by the load side

steering shaft S104 and the primary dynamo-electric unit E101 include:

1. A directly coaxial structure is indicated between the load side steering shaft S104 and the primary dynamo-electric unit E101 for the coaxial structure of the load side steering shaft S104 to directly drive the load; or
2. Alternatively, a fixed speed ratio or variable speed ratio or variable steering transmission mechanism or planetary transmission mechanism T103 is provided between the load side steering shaft S104 and the primary dynamo-electric unit E101 for the output terminal of the primary dynamo-electric unit E101 to directly drive the load; or
3. A fixed speed ratio or variable speed ratio or variable steering transmission mechanism or planetary or differential transmission mechanism T105 is further provided between the output terminal of the primary dynamo-electric unit E101 and the load as described in subparagraph 1, then the output terminal is selected as required to drive the load; or
4. a fixed speed ratio or variable speed ratio or variable steering transmission mechanism or planetary transmission mechanism T103 is provided between the coaxial structure of the load side steering shaft S104 and the primary dynamo-electric unit E101 and the driven load, then as required the fixed speed ratio or

variable speed ratio or variable steering transmission mechanism or planetary or differential transmission mechanism T105 is provided, and the output terminal is selected as required to drive the load; within:

- the engine ICE101: comprised of various known internal combustion engine and its related start-up and operation speed control device and peripheral interface devices including fuel system, air inlet & exhaust system, ignition system and cooling system to directly drive the steering shaft S103 or by way of fixed speed ratio or variable speed ratio or variable steering transmission mechanism or planetary transmission mechanism T104;
- the automatic transmission mechanism T1040: an optional mechanism comprised of various known coaxial or non-coaxial transmission, e.g. a gear set, belt gear set, sprocket gear set, power-locking gear set or hydraulic coupling device, or automatic transmission mechanism, stage or stageless variable, comprised of electromagnetic coupling device;
- the primary dynamo-electric unit E101: essentially functioning as a motor and also as a secondary generator, related to a secondary motor of series excitation or pilot compound type secondary

central control unit CCU101, the drive control device CD101 and the storage discharging device ESD101; and the specific system structure described above provides functions related to those as claimed in Claim 1 or other specific function, and operation patterns related to those operation claimed in Claim 2 or other specific operation patterns.

24. A drive dynamo-electric unit speed controlled compound power system as claimed in Claim 4, wherein, a one-way transmission mechanism as the driven control is connected in series with the driven draw side of the centrifugal clutch, essentially comprised of double-acting centrifugal clutches FC101 and FC102 and the one-way transmission mechanism SWC 101 selected for steering operation connected in sequence between the steering shaft S103 and the drive load side steering shaft S104 of the engine ICE101. The double-acting centrifugal clutch is comprised of two units of centrifugal clutches FC101 and FC102 in a three-layer structure, an inner, an intermediate and an out layers, either by insertion to each other or integrated; within, the inner layer and the inner side of the intermediate layer form the centrifugal clutch FC101; the inner layer incorporated to the load side steering shaft S104 drawn to each other is provided with a drive power-locking unit to act outward when the centrifugal force reaches a preset value; the outer side of the intermediate layer and the inner side of the outer layer form the centrifugal clutch FC102; the intermediate layer related to the one-way transmission mechanism SWC101 selected for steering

the system are subject to control by the manual control interface M101, the central control unit CCU101, the drive control device CD101 and the storage discharging device ESD101; and the specific system structure described above provides functions related to those as claimed in Claim 1 or other specific function, and operation patterns related to those operation claimed in Claim 2 or other specific operation patterns.

25. A drive dynamo-electric unit speed controlled compound power system as claimed in Claim 5, wherein, a one-way transmission mechanism as the driven control connected in series with the driven draw side of the centrifugal clutch; essentially comprised of having the fixed speed ratio or variable speed ratio, or variable steering transmission mechanism or planetary transmission mechanism T102 as claimed in Claim 24, the inner circumference of coupling surface for power-locking of the double-acting centrifugal clutch FC101 and the outer circumference of coupling surface for power-locking of the double-acting centrifugal clutch FC102 are jointly incorporated to an intermediate steering shaft S102; the double-acting centrifugal clutches are comprised of two units of centrifugal clutches FC101 and FC102 inserted to each other in a three-layer structure, an inner, an intermediate and an out layers; within, the inner layer and the inner side of the intermediate layer form the centrifugal clutch FC101; the inner layer incorporated to the intermediate steering shaft S102 drawn to each other is provided with a drive power-locking unit to act outward when the centrifugal force reaches a preset value.

The outer side of the intermediate layer and the inner side of the outer layer form the centrifugal clutch FC102; the intermediate layer related to the one-way transmission mechanism SWC101 selected for steering operation is coupled to the steering shaft S103 driven by the engine; the inner side of the intermediate layer is provided with a circumferential coupling surface for power-locking and its outer side is provided with a drive power-locking unit acting outward when the centrifugal force reaches its preset value performs the functions as an output clutch with the power-locking circumferential coupling surface on the inner side of the outer layer; the outer layer is also incorporated to the intermediate steering shaft S104 so to provide linkage with the load when the engine runs at low rpm or is temporarily cut off. The steering shaft S103 either directly driven or driven through a fixed speed ratio or variable speed ratio, or variable steering transmission mechanism or planetary transmission mechanism T104 by the engine is coupled to the driven draw side of the centrifugal clutch FC101 and the intermediate steering shaft S102 to the drive draw side of the centrifugal clutch FC101 so to forthwith close the centrifugal clutch FC101 and further to draw the steering shaft S103 driven by the engine ICE101 when the intermediate steering shaft S102 reaches its preset rpm;

- the intermediate steering shaft S102: is directly outputted to the load, or alternatively, to an output clutch CL301 controlled by manual, mechanical, electromagnetic, hydraulic or centrifugal force

Patent 3,243,600

before being outputted to the load via the load side steering shaft S104; or as required, to execute single shaft output through a fixed speed ratio or variable speed ratio, variable steering transmission or planetary transmission mechanism T103, then through a steering shaft S105; or an optional transmission mechanism comprised of a differential gear set DG for differential output through two units of differential steering shafts S105R and S105L; the additional output clutch CL301 is provided between the intermediate steering shaft S102 and the load side steering shaft S104 with both steering shafts driven by the power-locking coupling surfaces on the inner and outer circumferences of the double-acting centrifugal clutches FC101 and FC102 while the other units comprising the system are the same as those claimed in Claim 5;

the combination of those structures described above for the system are subject to control by the manual control interface M101, the central control unit CCU101, the drive control device CD101 and the storage discharging device ESD101; and the specific system structure described above provides functions same as those claimed in Claim 24 when the output clutch CL301 is closed; and provides additional function when the output clutch CL301 is disengaged, including functions related to those claimed in Claim 1 or other specific function, and operation patterns related to those operation patterns claimed in Claim 2 or other specific operation pattern.

26. A drive dynamo-electric unit speed controlled compound power system as claimed in Claim 6, wherein, a one-way transmission mechanism as the driven control connected in series with the driven draw side of the centrifugal clutch, essentially comprised of the primary dynamo-electric unit E101 and the load side steering shaft S104 indicating a coaxial structure, and where between the dynamo-electric unit E101 and the engine ICE101 are provided with the double-acting centrifugal clutches FC101 and FC102, and the one-way transmission mechanism SWC101 selected for steering operation; both of the inner and the outer structures of the double-acting centrifugal clutches FC101 and FC102 are incorporated to the load side steering shaft S104 coupled to the output shaft of the primary dynamo-electric unit E101 and its intermediate layer structure is mutually incorporated to the steering shaft S103 driven by the engine ICE101; the double-acting centrifugal clutches is comprised of two units of centrifugal clutches FC101 and FC102 inserted to each other in a three-layer structure, an inner, an intermediate and an out layers; within, the inner layer and the inner side of the intermediate layer form the centrifugal clutch FC101; the inner layer incorporated to the load side steering shaft S104 drawn to each other is provided with a drive power-locking unit to act outward when the centrifugal force reaches a preset value; the outer side of the intermediate layer and the inner side of the outer layer form the centrifugal clutch FC102. The intermediate layer related to the one-way transmission mechanism SWC101 selected for steering

Claim 6;

the combination of those structures described above for the system are subject to control by the manual control interface M101, the central control unit CCU101, the drive control device CD101 and the storage discharging device ESD101; and the specific system structure described above provides functions related to those claimed in Claim 1 or other specific function, and operation patterns related to those operation claimed in Claim 2 or other specific operation patterns.

27. A drive dynamo-electric unit speed controlled compound power system as claimed in Claim 26, wherein, the primary dynamo-electric unit is replaced by two independent dynamo-electric units respectively provided on the side of two output shafts of a differential gear set, essentially comprised of having the primary dynamo-electric unit E101 claimed in Claim 26 is replaced by a primary dynamo-electric unit E101R to the right and another primary dynamo-electric unit E101L on the left; the primary dynamo-electric unit E101R to the right is directly connected in series with the steering shaft S105R to the right of the differential gear set DG, or alternatively, a one-way or two-way alternatively adapted with a one-way or two-way clutch CLU before being connected in series to the steering shaft S105R to the right of the differential gear set DG; the other primary dynamo-electric unit E101L on the left is directly connected in series with a steering shaft S105L to the left of a differential gear set DG or alternatively adapted with a one-way or two-way clutch CLU before being

connected in series to the steering shaft S105L to the left of the differential gear set DG; the steering shaft S104 on the load side of the centrifugal clutch FC101 is directly outputted to the steering shaft S105 of the differential gear set DG, or through the fixed or variable speed ratio or variable steering transmission or planetary transmission mechanism T103 before being outputted to the steering shaft S105 of the differential gear set DG, or alternatively, by means of the output clutch CL101 controlled by manual, mechanical, electromagnetic, hydraulic or centrifugal force before being outputted to the steering shaft S105 of the differential gear set DG. Both of the primary dynamo-electric unit E101R to the right and the other primary dynamo-electric unit E101L on the left are subject to equal speed or differential drive by a drive control device CD101.

28. A drive dynamo-electric unit speed controlled compound power system as claimed in Claim 23, wherein, the centrifugal clutch FC101 and a clutch CL102 controlled by manual, mechanical, electromagnetic, hydraulic power-locking type of or hydraulic coupling type are provided between the engine steering shaft S103 and the load side steering shaft S104 so to execute power coupling or interruption on both of the engine steering shaft S103 and the load side steering shaft S104 for the system to be equipped with a power-locking type or hydraulic coupling type controllable clutch CL102 and engine throttle, to further acquire another specific function for the engine rotation power driven load. The steering

shaft S103 either directly driven by the engine ICE101, or through a fixed or variable speed ratio or variable steering transmission or planetary transmission mechanism T104 is coupled to the driven drawn side of the centrifugal clutch FC101 while the load side steering shaft S104 to the drive draw side of the centrifugal clutch FC101. That is, once the load-side steering shaft S104 reaches the preset rpm, the centrifugal clutch FC101 is forthwith closed to draw the steering shaft S103 driven by the engine ECE101; the centrifugal clutch FC101 and the controllable clutch CL102 is individually provided or sharing the same structure; the combination of those structures described above for the system are subject to control by the manual control interface M101, the central control unit CCU101, the drive control device CD101 and the storage discharging device ESD101; and the specific system structure described above provides functions related to those claimed in Claim 1 or other specific function, and operation patterns related to those claimed in Claim 2 or other specific operation patterns.

29. A drive dynamo-electric unit speed controlled compound power system as claimed in Claim 28, wherein, a output clutch CL101 controlled by manual, mechanical, electromagnetic, hydraulic or centrifugal force is provided between the load side steering shaft S104 driven by the primary dynamo-electric unit E101 and the load. When the output clutch CL101 is closed, it provides the same function as those claimed in Claim 28 and additional functions when the output clutch CL101 is disengaged,

including being separated from the load to leave the engine to simultaneously drive the first and the second dynamo-electric units E101 and E102 to function as generators, or to drive the primary dynamo-electric E101 alone to operate as a generator, as well as functions related to those claimed in Claim 1 or other specific function, and operation patterns related to those claimed in Claim 2 or other specific operation patterns.

30. A drive dynamo-electric unit speed controlled compound power system as claimed in Claim 29, wherein, the primary dynamo-electric unit to be replaced by two independent dynamo-electric units respectively provided on the side of two output shafts of the differential gear set, essentially comprised of having the primary dynamo-electric unit E101 as claimed in Claim 29 replaced by a primary dynamo-electric unit E101R to the right and another primary dynamo-electric unit E101L on the left; the primary dynamo-electric unit E101R to the right is directly connected in series with the steering shaft S105R to the right of the differential gear set DG, or alternatively, a one-way or two-way alternatively adapted with a one-way or two-way clutch CLU before being connected in series to the steering shaft S105R to the right of the differential gear set DG; the other primary dynamo-electric unit E101L on the left is directly connected in series with a steering shaft S105L to the left of a differential gear set DG or alternatively adapted with a one-way or two-way clutch CLU before being connected in series to the steering shaft S105L to the left of the differential gear set DG; the steering shaft

S103 which is directly driven by the engine ICE101 or through a fixed speed ratio or variable speed ratio, or variable steering device or planetary transmission mechanism T104 reaches the preset rpm, it drives to close the centrifugal clutch FC101, thus to draw the load side steering shaft S104; the steering shaft S104 on the load side is provided to drive the load, and a fixed speed ratio or variable speed ratio or variable steering transmission mechanism T102 is provided to the steering shaft S104 on the load side to engage in mutual transmission with a primary dynamo-electric unit E101 while the other units comprising the system are the same as those claimed in Claim 11;

the combination of those structures described above for the system are subject to control by the manual control interface M101, the central control unit CCU101, the drive control device CD101 and the storage discharging device ESD101; and the specific system structure described above provides functions related to those claimed in Claim 1 or other specific function, and operation patterns related to those claimed in Claim 2 or other specific operation patterns.

32. A drive dynamo-electric unit speed controlled compound power system as claimed in Claim 24, wherein, a centrifugal clutch is provided in opposite direction and a one-way transmission mechanism selected for steering operation is provided as the drive control, essentially comprised of the double-acting centrifugal clutches FC101 and FC102 are connected in series between the steering shaft S103 and the drive load side steering shaft

steering shaft S104 to the driven draw side of the centrifugal clutch FC101 so to forthwith close the centrifugal clutch FC101 and further to draw the load side steering shaft S104 when the load side steering shaft S104 reaches its preset rpm. Alternatively, a fixed speed ratio or variable speed ratio, or variable steering transmission mechanism or planetary transmission mechanism T102 is provided on the load side steering shaft S104 to engage mutual transmission with the primary dynamo-electric unit; while the other units comprising the system are the same as those claimed in Claim 12; the combination of those structures described above for the system are subject to control by the manual control interface M101, the central control unit CCU101, the drive control device CD101 and the storage discharging device ESD101; and the specific system structure described above provides functions related to those claimed in Claim 1 or other specific function, and operation patterns related to those claimed in Claim 2 or other specific operation patterns.

33. A drive dynamo-electric unit speed controlled compound power system as claimed in Claim 25, wherein, the centrifugal clutch is provided in opposite direction and a one-way transmission mechanism selected for steering operation to function as the drive control; an output clutch CL301 controlled by manual, mechanical, electromagnetic or hydraulic force is alternatively provided between the steering shaft S103 on the side of the engine ICE101 and the double-acting centrifugal clutches at where between the drive draw side of the

TOP SECRET

centrifugal clutch FC101 and the driven draw side of the centrifugal clutch FC102 while the other units comprising the system are the same as those claimed in Claim 13; the combination of those structures described above for the system are subject to control by the manual control interface M101, the central control unit CCU101, the drive control device CD101 and the storage discharging device ESD101; and the specific system structure described above provides same functions same as those claimed in Claim 32 when the output clutch CL301 is closed; and when the output clutch CL301 is disengaged, the specific system structure described above provides additional functions related to those claimed in Claim 1 or other specific function, and operation patterns related to those claimed in Claim 2 or other specific operation patterns.

34. A drive dynamo-electric unit speed controlled compound power system as claimed in Claim 26, wherein, the centrifugal clutch is provided in opposite direction and a one-way transmission mechanism selected for steering operation functioning as the drive control; the dynamo-electric unit E101 and the load side steering shaft S104 indicate a coaxial structure with the double-acting centrifugal clutches FC101 and FC102 provided between the dynamo-electric unit E101 and the engine ICE101; the intermediate structure is provided to be incorporated to the load side steering shaft S104 in the same structure of the output shaft of the primary dynamo-electric unit E101, and its inner and outer layers incorporated to the engine steering shaft S103; the double acting centrifugal clutches FC101 and FC102 form to each other or integrated

into a 3-layer structure containing an inner layer, an intermediate layer and an outer layer; within, the inner layer and the inner side of the intermediate layer form the centrifugal clutch FC101, the inner layer incorporated to the engine steering shaft S103 drawn to each other is provided with a drive power-locking unit to act outward when the centrifugal force reaches a preset value; the outer side of the intermediate layer and the inner side of the outer layer form the centrifugal clutch FC102; the intermediate layer being coupled to the steering shaft S103 driven by the primary dynamo-electric unit E101 having its inner side provided with circumferential coupling surface for power-locking and its outer side provided with a drive power-locking unit acting outward when the centrifugal force reaches its preset value performs the functions as an output clutch with the power-locking circumferential coupling surface on the inner side of the outer layer; the drive draw side of the centrifugal clutch FC101 is incorporated to the steering shaft S103 on the side of the engine ICE101 so to couple to the engine to drive the load when the engine runs at high rpm, and to cut off the linkage to the load when the engine runs at low rpm; the engine ICE101 is either directly or by means of the steering shaft S103 driven by a fixed speed ratio or variable speed ratio, or variable steering transmission mechanism or planetary transmission mechanism T104, coupled to the drive draw side of the centrifugal clutch FC101 and the driven draw side of the other centrifugal clutch FC102; meanwhile, the load side steering shaft S104 is coupled to the driven

draw side of the centrifugal clutch FC101 and the drive
draw side of the other centrifugal clutch FC102 so that
when the load side steering shaft S104 reaches its preset
rpm, the other centrifugal clutch FC102 is closed thus
5 to draw the steering shaft S103 driven by the engine ICE101,
or when the steering shaft S103 on the side of the engine
ICE101 reaches its preset rpm, the centrifugal clutch
FC101 is closed, thus to draw the load side steering shaft
S104 to drive the load; as required, the output clutch
10 CL101 is provided at where between the output side of
the primary dynamo-electric unit E101 and the fixed speed,
or variable speed ratio or variable steering transmission
mechanism or planetary transmission mechanism T103; the
output clutch CL101 is controlled by manual, mechanical,
15 electromagnetic, hydraulic or centrifugal force while
the other units comprising the system are the same as
those claimed in Claim 14;
the combination of those structures described above for
the system are subject to control by the manual control
20 interface M101, the central control unit CCU101, the drive
control device CD101 and the storage discharging device
ESD101. The specific system structure described above
provides functions related to those claimed in Claim 1
or other specific function, and operation patterns
25 related to those claimed in Claim 2 or other specific
operation patterns.

35. A drive dynamo-electric unit speed controlled compound
power system as claimed in Claim 34, wherein, the primary
dynamo-electric unit is replaced by two independent
30 dynamo-electric units respectively provided on the side

of two output shafts of the differential gear set; the primary dynamo-electric unit E101 claimed in Claim 34 is replaced by a primary dynamo-electric unit E101R to the right and another primary dynamo-electric unit E101L on the left; the primary dynamo-electric unit E101R to the right is directly connected in series with the steering shaft S105R to the right of the differential gear set DG, or alternatively, a one-way or two-way alternatively adapted with a one-way or two-way clutch CLU before being connected in series to the steering shaft S105R to the right of the differential gear set DG; the other primary dynamo-electric unit E101L on the left is directly connected in series with a steering shaft S105L to the left of a differential gear set DG or alternatively adapted with a one-way or two-way clutch CLU before being connected in series to the steering shaft S105L to the left of the differential gear set DG; the steering shaft S104 on the load side of the centrifugal clutch FC101 is directly outputted to the steering shaft S105 of the differential gear set DG, or through the fixed or variable speed ratio or variable steering transmission or planetary transmission mechanism T103 before being outputted to the steering shaft S105 of the differential gear set DG, or alternatively, by means of the output clutch CL101 controlled by manual, mechanical, electromagnetic, hydraulic or centrifugal force before being outputted to the steering shaft S105 of the differential gear set DG; both of the primary dynamo-electric unit E101R to the right and the other primary dynamo-electric unit E101L on the left are subject

to equal speed or differential drive by a drive control device CD101

36. A drive dynamo-electric unit speed controlled compound power system as claimed in Claim 31, wherein, a centrifugal the centrifugal clutch FC101 and another clutch CL102 controlled by manual, mechanical, electromagnetic, hydraulic power-locking type of or hydraulic coupling type are provided between the engine steering shaft S103 and the load side steering shaft S104 so to execute power coupling or interruption on both of the engine steering shaft S103 and the load side steering shaft S104 for the system to be equipped with a power-locking type or hydraulic coupling type controllable clutch CL102 and engine throttle, to further acquire another specific function for the engine rotation power driven load; the steering shaft S103 either directly driven by the engine ICE101, or through a fixed or variable speed ratio or variable steering transmission or planetary transmission mechanism T104 is coupled to the drive drawn side of the centrifugal clutch FC101 while the load side steering shaft S104 to the driven draw side of the centrifugal clutch FC101. That is, once the steering shaft S103 on the side of the engine ICE101 reaches the preset rpm, the centrifugal clutch FC101 is forthwith closed to draw the load side steering shaft S104; the centrifugal clutch FC101 and the controllable clutch CL102 is individually provided or sharing the same structure, while the other units comprising the system are the same as those claimed in Claim 31; the combination of those structures described above for

the system are subject to control by the manual control interface M101, the central control unit CCU101, the drive control device CD101 and the storage discharging device ESD101 and the specific system structure described above provides functions related to those claimed in Claim 1 or other specific function, and operation patterns related to those claimed in Claim 2 or other specific operation patterns.

37. A drive dynamo-electric unit speed controlled compound power system as claimed in Claim 36, wherein, an output clutch CL101 controlled by manual, mechanical, electromagnetic, hydraulic or centrifugal force is disposed at where between the load side steering S104 driven by the primary dynamo-electric unit E101 and the load. When the output shaft CL101 is closed, it provides the same functions as those claimed in Claim 36; and when it is disengaged, the engine ICE101 simultaneously drives the primary dynamo-electric unit E101 and the secondary dynamo-electric unit E102 to operate as a generator or the primary dynamo-electric unit E101 is driven alone to operate as a generator and also provides additional functions related to those claimed in Claim 1 or other specific function and operation patterns related to those claimed in Claim 2 or other specific operation patterns.
38. A drive dynamo-electric unit speed controlled compound power system as claimed in Claim 37, wherein, the primary dynamo-electric unit in the preferred embodiment taken from Fig. 36 is replaced by two independent dynamo-electric units respectively provided on the side of two output shafts of the differential gear set. Within,

TOP SECRET

the primary dynamo-electric unit E101 as claimed in Claim 37 is replaced by a primary dynamo-electric unit E101R to the right and another primary dynamo-electric unit E101L on the left; the primary dynamo-electric unit E101R to the right is directly connected in series with the steering shaft S105R to the right of the differential gear set DG, or alternatively, a one-way or two-way alternatively adapted with a one-way or two-way clutch CLU before being connected in series to the steering shaft S105R to the right of the differential gear set DG; the other primary dynamo-electric unit E101L on the left is directly connected in series with a steering shaft S105L to the left of a differential gear set DG or alternatively adapted with a one-way or two-way clutch CLU before being connected in series to the steering shaft S105L to the left of the differential gear set DG; the steering shaft S104 on the load side of the centrifugal clutch FC101 is directly outputted to the steering shaft S105 of the differential gear set DG, or through the fixed or variable speed ratio or variable steering transmission or planetary transmission mechanism T103 before being outputted to the steering shaft S105 of the differential gear set DG, or alternatively, by means of the output clutch CL101 controlled by manual, mechanical, electromagnetic, hydraulic or centrifugal force before being outputted to the steering shaft S105 of the differential gear set DG; both of the primary dynamo-electric unit E101R to the right and the other primary dynamo-electric unit E101L on the left are subject to equal speed or differential drive by a drive control

device CD101, while providing the same functions as those claimed in Claim 37.

39. A drive dynamo-electric unit speed controlled compound power system as claimed in Claim 3, wherein, the system is changed to that a one-way transmission mechanism is provided between the steering shaft of the engine incorporated to the driven draw side of the centrifugal clutch and the output shaft incorporated to the drive draw side of the centrifugal clutch; the centrifugal clutch FC101 and the one-way transmission mechanism SWC101 selected for steering operation to control the operation of both steering shafts S103 and S104 to couple or interrupt transmission is provided between the steering shaft S103 driven by the engine ICE101 and the load side steering shaft S104; the steering shaft S103 driven by the engine ICE101 is coupled to the driven draw side of the centrifugal clutch FC101 while the load side steering shaft S104 is coupled to the drive draw side of the centrifugal clutch FC101 so that when the load side steering shaft S104 reaches its preset rpm, the centrifugal clutch FC101 is forthwith closed, thus to draw the steering shaft S103 either directly driven by the engine ICE101 or via the fixed or variable speed ratio or variable steering transmission or planetary transmission mechanism T104; the load side steering shaft S104 is provided to drive the load and a fixed or variable speed ratio or variable steering transmission or planetary transmission mechanism T102 may be provided on the load side steering shaft S104 to engage mutual transmission with the primary dynamo-electric unit E101

while the other units comprising the system are the same as those claimed in Claim 3;

the combination of those structures described above for the system are subject to control by the manual control interface M101, the central control unit CCU101, the drive control device CD101 and the storage discharging device ESD101; the specific system structure described above provides functions related to those claimed in Claim 1 or other specific function, and operation patterns related to those claimed in Claim 2 or other specific operation patterns.

40. A drive dynamo-electric unit speed controlled compound power system as claimed in Claim 4, wherein, a one-way transmission mechanism is provided between the steering shaft of the engine incorporated to the driven draw side of the centrifugal clutch and the output shaft incorporated to the drive draw side of the centrifugal clutch, essentially comprised of having the double-acting centrifugal clutches FC101 and FC102 connected in series and in sequence between the steering shaft S103 and the load side steering shaft S104 of the engine ICE101, and on the one-way transmission mechanism SWC101 selected for steering operation; the double acting centrifugal clutches FC101 and FC102 form to each other or integrated into a 3-layer structure containing an inner layer, an intermediate layer and an outer layer. Within, the inner layer and the inner side of the intermediate layer form the centrifugal clutch FC101, the inner layer incorporated to the load side steering shaft S104 drawn to each other is provided with a drive power-locking unit

to act outward when the centrifugal force reaches a preset value; the outer side of the intermediate layer and the inner side of the outer layer form the centrifugal clutch FC102; the intermediate layer being coupled to the steering shaft S103 driven by the engine having its inner side provided with circumferential coupling surface for power-locking and its outer side provided with a drive power-locking unit acting outward when the centrifugal force reaches its preset value performs the functions as an output clutch with the power-locking circumferential coupling surface on the inner side of the outer layer; and the outer layer is also incorporated to the load side steering shaft S104 so to provide linkage with the load when the engine runs at low rpm or is temporarily cut off; the steering shaft S103 either directly driven or driven through a fixed speed ratio or variable speed ratio, or variable steering transmission mechanism or planetary transmission mechanism T104 by the engine is coupled to the driven draw side of the centrifugal clutch FC101 and the load side steering shaft S104 to the drive draw side of the centrifugal clutch FC101 so to forthwith close the centrifugal clutch FC101 and further to draw the steering shaft S103 driven by the engine ICE101 when the load side steering shaft S104 reaches its preset rpm; alternatively, a fixed speed ratio or variable speed ratio, or variable steering transmission mechanism or planetary transmission mechanism T102 is provided on the load side steering shaft S104 to engage mutual transmission with the primary dynamo-electric unit while the other units

comprising the system are the same as those claimed in Claim 4;

the combination of those structures described above for the system are subject to control by the manual control interface M101, the central control unit CCU101, the drive control device CD101 and the storage discharging device ESD101 and the specific system structure described above provides functions related to those claimed in Claim 1 or other specific function, and operation patterns related to those claimed in Claim 2 or other specific operation patterns.

41. A drive dynamo-electric unit speed controlled compound power system as claimed in Claim 5, wherein, a one-way transmission mechanism is provided between the steering shaft of the engine incorporated to the driven draw side of the centrifugal clutch and the output shaft incorporated to the drive draw side of the centrifugal clutch essentially comprised of having the fixed speed ratio or variable speed ratio, or variable steering transmission mechanism or planetary transmission mechanism T102 as claimed in Claim 40 to be jointly incorporated to the intermediate steering shaft S102 with the coupling surface of the inner circumference of the double-acting centrifugal clutch FC101 for power locking and the coupling surface of the outer circumference of the double-acting centrifugal clutch FC102; the double-acting centrifugal clutches are comprised of two units of centrifugal clutches FC101 and FC102 inserted to each other in a three-layer structure, an inner, an intermediate and an out layers; within, the inner layer

00004704001

and the inner side of the intermediate layer form the centrifugal clutch FC101. The inner layer incorporated to the intermediate steering shaft S102 drawn to each other is provided with a drive power-locking unit to act outward when the centrifugal force reaches a preset value; the outer side of the intermediate layer and the inner side of the outer layer form the centrifugal clutch FC102; the intermediate layer related to the one-way transmission mechanism SWC101 selected for steering operation is coupled to the steering shaft S103 driven by the engine. The inner side of the intermediate layer is provided with a circumferential coupling surface for power-locking and its outer side is provided with a drive power-locking unit acting outward when the centrifugal force reaches its preset value performs the functions as an output clutch with the power-locking circumferential coupling surface on the inner side of the outer layer; the outer layer is also incorporated to the intermediate steering shaft S104 so to provide linkage with the load when the engine runs at low rpm or is temporarily cut off; the steering shaft S103 either directly driven or driven through a fixed speed ratio or variable speed ratio, or variable steering transmission mechanism or planetary transmission mechanism T104 by the engine is coupled to the driven draw side of the centrifugal clutch FC101, and the one-way transmission mechanism SWC101 selected for steering operation is provided between the steering shaft S103 and the intermediate shaft S102 while the intermediate shaft S102 is coupled to the drive draw side of the

centrifugal clutch FC101 so to forthwith close the centrifugal clutch FC101 and further to draw the steering shaft S103 driven by the engine ICE101 when the intermediate steering shaft S102 reaches its preset rpm;

- 5 - the intermediate steering shaft S102: is directly outputted to the load, or alternatively, to an output clutch CL301 controlled by manual, mechanical, electromagnetic, hydraulic or centrifugal force before being outputted to the load via the load side steering shaft S104; or as required, to execute single shaft output through a fixed speed ratio or variable speed ratio, variable steering transmission or planetary transmission mechanism T103, then through a steering shaft S105; or an optional transmission mechanism comprised of a differential gear set DG for differential output through two units of differential steering shafts S105R and S105L; the additional output clutch CL301 is provided between the intermediate steering shaft S102 and the load side steering shaft S104 with both steering shafts driven by the power-locking coupling surfaces on the inner and outer circumferences of the double-acting centrifugal clutches FC101 and FC102 while the other units comprising the system are the same as those claimed in Claim 5;

the combination of those structures described above for the system are subject to control by the manual control interface M101, the central control unit CCU101, the drive control device CD101 and the storage discharging device ESD101; and the specific system structure

described above provides functions related to those claimed in Claim 1 or other specific function, and operation patterns related to those claimed in Claim 2 or other specific operation patterns.

- 5 42. A drive dynamo-electric unit speed controlled compound power system as claimed in Claim 6, wherein, a one-way transmission mechanism is provided between the steering shaft of the engine incorporated to the driven draw side of the centrifugal clutch and the output shaft
- 10 incorporated to the drive draw side of the centrifugal clutch, essentially comprised of that the primary dynamo-electric unit E101 and the load side steering shaft S104 indicate coaxial structure and the double-acting centrifugal clutches FC101 and FC102 are provided between
- 15 the dynamo-electric unit E101 and the engine ICE101 with its inner and outer structures to be incorporated to the load side steering shaft S104 incorporated to the output terminal of the primary dynamo-electric unit E101 and its intermediate structure is incorporated to the
- 20 steering shaft S103 driven by the engine ICE101; the double-acting centrifugal clutches is comprised of two units of centrifugal clutches FC101 and FC102 inserted to each other in a three-layer structure, an inner, an intermediate and an out layers. Within, the inner layer
- 25 and the inner side of the intermediate layer form the centrifugal clutch FC101; the inner layer incorporated to the load side steering shaft S104 drawn to each other is provided with a drive power-locking unit to act outward when the centrifugal force reaches a preset value. The
- 30 outer side of the intermediate layer and the inner side

of the outer layer form the centrifugal clutch FC102;
the intermediate layer related to the one-way
transmission mechanism SWC101 selected for steering
operation is coupled to the steering shaft S103 driven
5 by the engine; the inner side of the intermediate layer
is provided with a circumferential coupling surface for
power-locking and its outer side is provided with a drive
power-locking unit acting outward when the centrifugal
force reaches its preset value performs the functions
10 as an output clutch with the power-locking
circumferential coupling surface on the inner side of
the outer layer. The outer layer is also incorporated
to the load side steering shaft S104 so to provide linkage
with the load when the engine runs at high speed and to
15 cut off the linkage to the load when the engine runs at
low speed; the steering shaft S103 either directly driven
or driven through a fixed speed ratio or variable speed
ratio, or variable steering transmission mechanism or
planetary transmission mechanism T104 by the engine is
20 coupled to the driven draw side of the centrifugal clutch
FC101 and the load side steering shaft S103 to the driven
draw side of the centrifugal clutch FC101; the one-way
transmission mechanism SWC101 selected for steering
operation is provided between the steering shaft S103
25 and the load side steering shaft S104 and the load side
steering shaft S104 is incorporated to the drive draw
side of the centrifugal clutch FC101 so that once the
load side steering shaft S104 reaches its rpm, the
centrifugal clutch FC101 is closed thus to draw the
30 steering shaft S103 driven by the engine ICE101; the

output clutch CL101 when required is provided between the output side of the primary dynamo-electric unit E101 and the fixed speed ratio or variable speed ratio, or variable steering transmission mechanism or planetary transmission mechanism T103; the output clutch CL101 is controlled by manual, mechanical, electromagnetic, hydraulic or centrifugal force while the other units comprising the system are the same as those claimed in Claim 6;

the combination of those structures described above for the system are subject to control by the manual control interface M101, the central control unit CCU101, the drive control device CD101 and the storage discharging device ESD101; and the specific system structure described above provides functions related to those claimed in Claim 1 or other specific function, and operation patterns related to those claimed in Claim 2 or other specific operation patterns.

43. A drive dynamo-electric unit speed controlled compound power system as claimed in Claim 42, wherein, the primary dynamo-electric unit is replaced by two independent dynamo-electric units respectively provided on the side of two output shafts of a differential gear set essentially comprised of having the primary dynamo-electric unit E101 as claimed in Claim 42 to be replaced by a primary dynamo-electric unit E101R to the right and another primary dynamo-electric unit E101L on the left; the primary dynamo-electric unit E101R to the right is directly connected in series with the steering shaft S105R to the right of the differential gear set

type are provided between the engine steering shaft S103 and the load side steering shaft S104 so to execute power coupling or interruption on both of the engine steering shaft S103 and the load side steering shaft S104 for the system to be equipped with a power-locking type or hydraulic coupling type controllable clutch CL102 and engine throttle, to further acquire another specific function for the engine rotation power driven load; the steering shaft S103 either directly driven by the engine ICE101, or through a fixed or variable speed ratio or variable steering transmission or planetary transmission mechanism T104 is coupled to the driven draw side of the centrifugal clutch FC101 while the load side steering shaft S104 to the drive draw side of the centrifugal clutch FC101; once the load-side steering shaft S104 reaches the preset rpm, the centrifugal clutch FC101 is forthwith closed to draw the steering shaft S103 driven by the engine ECE101; the centrifugal clutch FC101 and the controllable clutch CL102 is individually provided or sharing the same structure; and other units comprising the system are the same as those claimed in Claim 39; and

the combination of those structures described above for the system are subject to control by the manual control interface M101, the central control unit CCU101, the drive control device CD101 and the storage discharging device ESD101 and the specific system structure described above provides functions related to those claimed in Claim 1 or other specific function, and operation patterns related to those claimed in Claim 2 or other specific

operation patterns.

45. A drive dynamo-electric unit speed controlled compound power system as claimed in Claim 44, wherein, an output clutch CL101 controlled by manual, mechanical, 5 electromagnetic, and hydraulic or centrifugal force is provided between the load side steering shaft S104 driven by the primary dynamo-electric unit E101 and the load; when the output clutch CL101 is closed, it provides the same function as those claimed in Claim 44; and additional 10 functions when the output clutch CL101 is disengaged, including being separated from the load to leave the engine to simultaneously drive the first and the second dynamo-electric units E101 and E102 to function as generators, or to drive the primary dynamo-electric E101 15 alone to operate as a generator while the primary dynamo-electric unit E101 is provided between the output clutch CL101 and the controllable clutch CL102; as well as functions related to those claimed in Claim 1 or other specific function, and operation patterns related to those claimed in Claim 2 or other specific operation 20 patterns.

46. A drive dynamo-electric unit speed controlled compound power system as claimed in Claim 45, wherein, the primary dynamo-electric unit replaced by two independent 25 dynamo-electric units respectively provided on the side of two output shafts of a differential gear set, essentially comprised of having the primary dynamo-electric unit E101 as claimed in Claim 45 replaced by a primary dynamo-electric unit E101R to the right and 30 another primary dynamo-electric unit E101L on the left;

the combination of those structures described above for the system are subject to control by the manual control interface M101, the central control unit CCU101, the drive control device CD101 and the storage discharging device ESD101 and the specific system structure described above provides functions related to those claimed in Claim 1 or other specific function, and operation patterns related to those claimed in Claim 2 or other specific operation patterns.

48. A drive dynamo-electric unit speed controlled compound power system as claimed in Claim 40, wherein, a drive application system the present invention is comprised of having the centrifugal clutch to be provided in opposite direction and a one-way transmission mechanism selected for steering operation, essentially comprised of having the double-acting centrifugal clutches FC101 and FC102 to be connected in series between the steering shaft S103 and the drive load side steering shaft S104 of the engine ICE101; the double-acting centrifugal clutches FC101 and FC102 form to each other by insertion or are integrated into a 3-layer structure containing an inner layer, an intermediate layer and an outer layer. The inner layer and the inner side of the intermediate layer form the centrifugal clutch FC101, the inner layer incorporated to the steering shaft S103 on the side of the engine ICE101 drawn to each other is provided with a drive power-locking unit to act outward when the centrifugal force reaches a preset value; the outer side of the intermediate layer and the inner side of the outer layer form the centrifugal clutch FC102; the intermediate

layer being coupled to the load side steering shaft S104 having its inner side provided with circumferential coupling surface for power-locking and its outer side provided with a drive power-locking unit acting outward when the centrifugal force reaches its preset value performs the functions as an output clutch with the power-locking circumferential coupling surface on the inner side of the outer layer; and the outer layer is also incorporated to the steering shaft S103 on the side of the engine ICE101 so to provide linkage with the load when the engine runs at low rpm or is temporarily cut off; the load side steering shaft S103 either directly driven or driven through a fixed speed ratio or variable speed ratio, or variable steering transmission mechanism or planetary transmission mechanism T104 by the engine is coupled through the one-way transmission mechanism SWC101 selected for steering operation to the drive draw side of the centrifugal clutch FC101 and the load side steering shaft S104 to the driven draw side of the centrifugal clutch FC101 so to forthwith close the centrifugal clutch FC101 and further to draw the load side steering shaft S104 when the load side steering shaft S104 reaches its preset rpm; alternatively, a fixed speed ratio or variable speed ratio, or variable steering transmission mechanism or planetary transmission mechanism T102 is provided on the load side steering shaft S104 to engage mutual transmission with the primary dynamo-electric unit E101; while the other units comprising the system are the same as those claimed in Claim 40;

the combination of those structures described above for the system are subject to control by the manual control interface M101, the central control unit CCU101, the drive control device CD101 and the storage discharging device ESD101; and the specific system structure described above provides functions related to those claimed in Claim 1 or other specific function, and operation patterns related to those claimed in Claim 2 or other specific operation patterns.

49. A drive dynamo-electric unit speed controlled compound power system as claimed in Claim 41, wherein, a drive application system is comprised of having the centrifugal clutch claimed in Claim 41 to be provided in opposite direction and a one-way transmission mechanism selected for steering operation functioning as the drive control, essentially comprised an output clutch CL301 controlled by manual, mechanical, electromagnetic or hydraulic force to be alternatively provided between the steering shaft S103 on the side of the engine ICE101 and the double-acting centrifugal clutches at where between the drive draw side of the centrifugal clutch FC101 and the driven draw side of the centrifugal clutch FC102 while the other units comprising the system are the same as those claimed in Claim 41;

the combination of those structures described above for the system are subject to control by the manual control interface M101, the central control unit CCU101, the drive control device CD101 and the storage discharging device ESD101 and the specific system structure described above provides same functions same as those claimed in Claim

48 when the output clutch CL301 is closed; and when the output clutch CL301 is disengaged, the specific system structure described above provides additional functions related to those claimed in Claim 1 or other specific function, and operation patterns related to those claimed in Claim 2 or other specific operation patterns.

50. A drive dynamo-electric unit speed controlled compound power system as claimed in Claim 42, wherein, a drive application system the present invention is comprised of having the centrifugal clutch to be provided in opposite direction and a one-way transmission mechanism selected for steering operation to function as the drive control; the dynamo-electric unit E101 and the load side steering shaft S104 indicate a coaxial structure with the double-acting centrifugal clutches FC101 and FC102 provided between the dynamo-electric unit E101 and the engine ICE101. The intermediate structure is provided to be incorporated to the load side steering shaft S104 in the same structure of the output shaft of the primary dynamo-electric unit E101, and its inner and outer layers incorporated to the engine steering shaft S103. The double acting centrifugal clutches FC101 and FC102 form to each other or integrated into a 3-layer structure containing an inner layer, an intermediate layer and an outer layer; within, the inner layer and the inner side of the intermediate layer form the centrifugal clutch FC101, the inner layer incorporated to the engine steering shaft S103 drawn to each other is provided with a drive power-locking unit to act outward when the centrifugal force reaches a preset value; the outer side of the

intermediate layer and the inner side of the outer layer
form the centrifugal clutch FC102; the intermediate layer
being coupled to the steering shaft S103 driven by the
primary dynamo-electric unit E101 having its inner side
5 provided with circumferential coupling surface for
power-locking and its outer side provided with a drive
power-locking unit acting outward when the centrifugal
force reaches its preset value performs the functions
as an output clutch with the power-locking
10 circumferential coupling surface on the inner side of
the outer layer; the drive draw side of the centrifugal
clutch FC101 is incorporated to the steering shaft S103
on the side of the engine ICE101 so to couple to the engine
to drive the load when the engine runs at high rpm, and
15 to cut off the linkage to the load when the engine runs
at low rpm; the engine ICE101 is either directly or by
means of the steering shaft S103 driven by a fixed speed
ratio or variable speed ratio, or variable steering
transmission mechanism or planetary transmission
20 mechanism T104, coupled to the drive draw side of the
centrifugal clutch FC101 and the driven draw side of the
other centrifugal clutch FC102; meanwhile, the load side
steering shaft S104 is coupled to the driven draw side
of the centrifugal clutch FC101 and the drive draw side
25 of the other centrifugal clutch FC102 so that when the
load side steering shaft S104 reaches its preset rpm,
the other centrifugal clutch FC102 is closed thus to draw
the steering shaft S103 driven by the engine ICE101, or
when the steering shaft S103 on the side of the engine
30 ICE101 reaches its preset rpm, the centrifugal clutch

FC101 is closed, thus to draw the load side steering shaft S104 to drive the load; as required, the output clutch CL101 is provided at where between the output side of the primary dynamo-electric unit E101 and the fixed speed, or variable speed ratio or variable steering transmission mechanism or planetary transmission mechanism T103; the output clutch CL101 is controlled by manual, mechanical, electromagnetic, hydraulic or centrifugal force while the other units comprising the system are the same as those claimed in Claim 42;

the combination of those structures described above for the system are subject to control by the manual control interface M101, the central control unit CCU101, the drive control device CD101 and the storage discharging device ESD101 and the specific system structure described above provides functions related to those claimed in Claim 1 or other specific function, and operation patterns related to those claimed in Claim 2 or other specific operation patterns.

51. A drive dynamo-electric unit speed controlled compound power system as claimed in Claim 50, wherein, the primary dynamo-electric unit is further replaced by two individual dynamo-electric units respectively provided on the side of two output shafts of the differential shaft, essentially comprised of having the primary dynamo-electric unit E101 as claimed in Claim 50 to be replaced by a primary dynamo-electric unit E101R to the right and another primary dynamo-electric unit E101L on the left; the primary dynamo-electric unit E101R to the right is directly connected in series with the steering

Patent 2,335,600

shaft S105R to the right of the differential gear set
DG, or alternatively, a one-way or two-way alternatively
adapted with a one-way or two-way clutch CLU before being
connected in series to the steering shaft S105R to the
5 right of the differential gear set DG; the other primary
dynamo-electric unit E101L on the left is directly
connected in series with a steering shaft S105L to the
left of a differential gear set DG or alternatively
adapted with a one-way or two-way clutch CLU before being
10 connected in series to the steering shaft S105L to the
left of the differential gear set DG; the steering shaft
S104 on the load side of the centrifugal clutch FC101
is directly outputted to the steering shaft S105 of the
differential gear set DG, or through the fixed or variable
15 speed ratio or variable steering transmission or
planetary transmission mechanism T103 before being
outputted to the steering shaft S105 of the differential
gear set DG, or alternatively, by means of the output
clutch CL101 controlled by manual, mechanical,
20 electromagnetic, hydraulic or centrifugal force before
being outputted to the steering shaft S105 of the
differential gear set DG; both of the primary
dynamo-electric unit E101R to the right and the other
primary dynamo-electric unit E101L on the left are subject
25 to equal speed or differential drive by a drive control
device CD101.

52. A drive dynamo-electric unit speed controlled compound
power system as claimed in Claim 51, wherein, a
centrifugal the centrifugal clutch FC101 and another
30 clutch CL102 controlled by manual, mechanical,

related to those claimed in Claim 2 or other specific operation patterns.

53. A drive dynamo-electric unit speed controlled compound power system as claimed in Claim 52, wherein, an output clutch CL101 controlled by manual, mechanical, electromagnetic, hydraulic or centrifugal force is disposed at where between the load side steering S104 driven by the primary dynamo-electric unit E101 and the load. When the output shaft CL101 is closed, it provides the same functions as those claimed in Claim 52; and when it is disengaged, the engine ICE101 simultaneously drives the primary dynamo-electric unit E101 and the secondary dynamo-electric unit E102 to operate as a generator or the primary dynamo-electric unit E101 is driven alone to operate as a generator and also provides additional functions related to those claimed in Claim 1 or other specific function, and operation patterns related to those claimed in Claim 2 or other specific operation patterns.

54. A drive dynamo-electric unit speed controlled compound power system as claimed in Claim 53, wherein, the primary dynamo-electric unit is replaced by two independent dynamo-electric units respectively provided on the side of two output shafts of the differential gear set, essentially comprised of the primary dynamo-electric unit E101 beings replaced by a primary dynamo-electric unit E101R to the right and another primary dynamo-electric unit E101L on the left; the primary dynamo-electric unit E101R to the right is directly connected in series with the steering shaft S105R to the

right of the differential gear set DG, or alternatively,
a one-way or two-way alternatively adapted with a one-way
or two-way clutch CLU before being connected in series
to the steering shaft S105R to the right of the
differential gear set DG; the other primary
dynamo-electric unit E101L on the left is directly
connected in series with a steering shaft S105L to the
left of a differential gear set DG or alternatively
adapted with a one-way or two-way clutch CLU before being
connected in series to the steering shaft S105L to the
left of the differential gear set DG; the steering shaft
S104 on the load side of the centrifugal clutch FC101
is directly outputted to the steering shaft S105 of the
differential gear set DG, or through the fixed or variable
speed ratio or variable steering transmission or
planetary transmission mechanism T103 before being
outputted to the steering shaft S105 of the differential
gear set DG, or alternatively, by means of the output
clutch CL101 controlled by manual, mechanical,
electromagnetic, hydraulic or centrifugal force before
being outputted to the steering shaft S105 of the
differential gear set DG; both of the primary
dynamo-electric unit E101R to the right and the other
primary dynamo-electric unit E101L on the left are subject
to equal speed or differential drive by a drive control
device CD101, while providing the same functions as those
claimed in Claim 53.

55. A drive dynamo-electric unit speed controlled compound
power system as claimed in Claim 1, related to one by
having provided a one-way transmission mechanism as the

drive control between the load side steering shaft and
the engine power source; wherein, the one-way
transmission mechanism SWC101 is provided between the
steering shaft S103 and the load side steering shaft S104
driven by the engine ICE101; when the rpm of the load
side steering shaft S104 is higher than that of the
steering shaft S103 driven directly by the engine ICE101
or through a fixed speed ratio, variable speed ration
or variable transmission mechanism or planetary
transmission mechanism T104, the one-way transmission
mechanism SWC101 is idling without transmitting the
rotation kinetic energy, and the rpm of the steering shaft
S103 driven directly by the engine ICE101 or through a
fixed speed ratio, variable speed ration or variable
transmission mechanism, or planetary transmission
mechanism T104 is higher than that of the load side
steering shaft S104, the rotation kinetic energy from
the steering shaft S103 is transmitted through the one-way
transmission mechanism SWC101 to the load side steering
shaft S104; the load side steering shaft S104 is provided
for driving the load and the steering shaft S103 driven
directly by the engine ICE101 or through a fixed speed
ratio, variable speed ration or variable transmission
mechanism or planetary transmission mechanism T102 is
provided on the load side steering shaft S104 to provide
mutual transmission with the primary dynamo-electric
unit E101 while the other units comprising the system
are the same as those claimed in Claim 3;
the combination of those structures described above for
the system are subject to control by the manual control

interface M101, the central control unit CCU101, the drive control device CD101 and the storage discharging device ESD101 and the specific system structure described above provides functions related to those claimed in Claim 1 or other specific function, and operation patterns related to those claimed in Claim 2 or other specific operation patterns.

56. A drive dynamo-electric unit speed controlled compound power system as claimed in Claim 1, related to one by having provided a one-way transmission mechanism as the drive control between the load side steering shaft and the engine power source; wherein, the one-way transmission mechanism SWC101 and the centrifugal clutch FC102 are provided between the steering shaft S103 and the load side steering shaft S104 driven by the engine ICE101; the steering shaft S103 driven directly by the engine ICE101 or through a fixed speed ratio, variable speed ratio or variable transmission mechanism or planetary transmission mechanism T104 is coupled to the drive draw side of the centrifugal clutch FC102 and the load side steering shaft S104 is couple to the driven draw side of the centrifugal clutch FC102 so that when the rpm of the load side steering shaft S104 is higher than that of the steering shaft S103 driven by the fixed speed ratio, variable speed ratio or variable transmission mechanism or planetary transmission mechanism T104, the one-way transmission mechanism SWC101 is idling without transmitting rotation kinetic energy, and the rpm of the steering shaft S103 driven directly by the engine ICE101 or through a fixed speed

ratio, variable speed ration or variable transmission
mechanism, or planetary transmission mechanism T104 is
higher than that of the load side steering shaft S104,
the rotation kinetic energy from the steering shaft S103
is transmitted through the one-way transmission
mechanism SWC101 to the load side steering shaft S104;
when the steering shaft S103 directly driven by engine
ICE101 or through the fixed speed ratio, variable speed
ratio or variable transmission mechanism or planetary
transmission mechanism T104 reaches its preset rpm, the
centrifugal clutch FC102 is forthwith closed to draw the
load side steering shaft S104. Alternatively, the fixed
speed ratio, variable speed ration or variable
transmission mechanism or planetary transmission
mechanism T102 is provided on the load side steering shaft
S104 to provide mutual transmission with the primary
dynamo-electric unit E101 while the other units
comprising the system are the same as those claimed in
Claim 4;
the combination of those structures described above for
the system are subject to control by the manual control
interface M101, the central control unit CCU101, the drive
control device CD101 and the storage discharging device
ESD101 and the specific system structure described above
provides functions related to those claimed in Claim 1
or other specific function, and operation patterns
related to those claimed in Claim 2 or other specific
operation patterns.

57. A drive dynamo-electric unit speed controlled compound
power system as claimed in Claim 1, related to one by

having provided a one-way transmission mechanism as the drive control between the load side steering shaft and the engine power source; wherein, the fixed speed ratio, variable speed ration or variable transmission mechanism or planetary transmission mechanism T102 as claimed in Claim 56 is jointly incorporated to the intermediate steering shaft S102 with the coupling surface on the outer circumference on the driven draw side of the centrifugal clutch FC102; its intermediate layer is provided with a drive power-locking unit acting outward when the centrifugal force reaches its preset value; the intermediate layer is coupled to the steering shaft S103 driven by the engine ICE101, and the one-way transmission mechanism SWC101 selected for steering operation is provided in the inner side to be coupled to the intermediate steering shaft S102 so to cut off the linkage to the load when the engine stops or runs at low rpm; the steering shaft S103 directly driven or through the fixed speed ratio, variable speed ration or variable transmission mechanism or planetary transmission mechanism T104 is incorporated to the drive draw side of the centrifugal clutch FC102 and the intermediate steering shaft S102 is coupled to the driven draw side of the centrifugal clutch FC102 so that once the rpm of the intermediate steering shaft S102 is higher than the steering shaft S103 directly driven or through the fixed speed ratio, variable speed ration or variable transmission mechanism or planetary transmission mechanism T104, the one-way transmission mechanism SWC101 is idling without transmitting rotation kinetic

energy, and the rpm of the steering shaft S103 driven directly by the engine ICE101 or through a fixed speed ratio, variable speed ration or variable transmission mechanism, or planetary transmission mechanism T104 is higher than that of the load side steering shaft S104, the rotation kinetic energy from the steering shaft S103 is transmitted through the one-way transmission mechanism SWC101 to the intermediate steering shaft S102; the intermediate steering shaft S102 is directly outputted to the load, or alternatively via the load side steering shaft S104 before being outputted to the load by means of an optional output clutch CL301 controlled by manual, mechanical, electromagnetic, or hydraulic force; or alternatively, via the steering shaft S105 for single axial output by means of the fixed speed ratio, variable speed ration or variable transmission mechanism or planetary transmission mechanism T102; or alternatively, through two units of differential steering shafts S105R and S105L for differential output by means of the transmission mechanism comprised of the differential gear set DG; the optional output clutch CL301 may be provided at where between the intermediate steering shaft S102 drawn by the power-locking coupling surface on the outer circumference of the centrifugal clutch FC102 and the load side steering shaft S104;

- the intermediate steering shaft S102: is directly outputted to the load, or alternatively, to an output clutch CL301 controlled by manual, mechanical, electromagnetic, hydraulic or centrifugal force before being outputted to the load; or as required,

to execute single shaft output through a fixed speed ratio or variable speed ratio, variable steering transmission or planetary transmission mechanism T103, then through a steering shaft S105; or an optional transmission mechanism comprised of a differential gear set DG for differential output through two units of differential steering shafts S105R and S105L; the additional output clutch CL301 is provided between the intermediate steering shaft S102 and the load side steering shaft S104 with both steering shafts driven by the power-locking coupling surfaces on the inner and outer circumferences of the double-acting centrifugal clutches FC101 and FC102 while the other unit comprising the system are the same with those claimed in Claim 5;

the combination of those structures described above for the system are subject to control by the manual control interface M101, the central control unit CCU101, the drive control device CD101 and the storage discharging device ESD101; the specific system structure described above provides functions same as those claimed in Claim 56 when the output clutch CL301 is closed; and when the output clutch CL301 is disengaged, it provides functions related to those claimed in Claim 1 or other specific function, and operation patterns related to those claimed in Claim 2 or other specific operation patterns.

58. A drive dynamo-electric unit speed controlled compound power system as claimed in Claim 1, wherein, an application system that provides a one-way transmission mechanism between the load side steering shaft and the

engine power source; essentially comprised of the
dynamo-electric unit E101 and the load side steering shaft
S104 indicate a coaxial structure and the centrifugal
clutch FC102 is provided between the primary
5 dynamo-electric unit E101 and the engine ICE101; the
driven draw side of the centrifugal clutch FC102 is
incorporated to the load side steering shaft S104 coupled
to the output shaft of the primary dynamo-electric unit
E101 and the drive draw side of the centrifugal clutch
10 FC102 is coupled to the steering shaft S103 driven by
the engine ICE10.; the one-way transmission mechanism
SWC101 selected for steering operation is provided
between the steering shaft S103 and the load side steering
shaft S104; the drive draw side is provided with drive
15 power-locking unit acting outward once the centrifugal
force reaches its preset value thus to provide the
function of an output clutch jointly with the inner
circumference coupling surface for power-locking on the
driven draw side; the engine ICE101 is directly
20 incorporated or through the steering shaft S103 driven
by the fixed speed ratio, variable speed ratio or variable
transmission mechanism or planetary transmission
mechanism T104, to the drive draw side of the centrifugal
clutch FC101 while the load side steering shaft S104 is
25 incorporated to the driven draw side of the centrifugal
clutch FC101 so that once the rpm of the steering shaft
S103 driven by the engine ICE101 is higher than that of
the load side steering shaft S104, rotation kinetic energy
from the engine ICE101 drives the load side steering shaft
30 S104 by means of the transmission from the one-way

transmission mechanism SWC101, or when the steering shaft
S103 driven by the engine ICE101 reaches its preset rpm,
the centrifugal clutch FC102 is closed to couple the
engine ICE101 and the load side steering side S104; as
5 required, the output clutch CL101 is provided between
the output side of the primary dynamo-electric unit E101
and the fixed speed ratio, variable speed ratio, variable
steering transmission mechanism or planetary
transmission mechanism T103; the output clutch CL101 is
10 controlled by manual, mechanism, electromagnetic,
hydraulic or centrifugal force while the other units
comprising the system are the same as those claimed in
Claim 6;

the combination of those structures described above for
15 the system are subject to control by the manual control
interface M101, the central control unit CCU101, the drive
control device CD101 and the storage discharging device
ESD101; the specific system structure described above
provides functions related to those claim in Claim 1 or
20 other specific function, and operation patterns related
to those claimed in Claim 2 or other specific operation
patterns.

59. A drive dynamo-electric unit speed controlled compound
power system as claimed in Claim 58, wherein, the primary
25 dynamo-electric unit as claimed in Claim 58 is replaced
by two independent dynamo-electric units respectively
provided on the side of two output shafts of the
differential gear set, essentially comprised of the
primary dynamo-electric unit E101 being replaced by a
30 primary dynamo-electric unit E101R to the right and

SECRET

another primary dynamo-electric unit E101L on the left;
the primary dynamo-electric unit E101R to the right is
directly connected in series with the steering shaft S105R
to the right of the differential gear set DG, or
5 alternatively, a one-way or two-way alternatively
adapted with a one-way or two-way clutch CLU before being
connected in series to the steering shaft S105R to the
right of the differential gear set DG; the other primary
dynamo-electric unit E101L on the left is directly
10 connected in series with a steering shaft S105L to the
left of a differential gear set DG or alternatively
adapted with a one-way or two-way clutch CLU before being
connected in series to the steering shaft S105L to the
left of the differential gear set DG; the load side
15 steering shaft S104 coaxial with the primary
dynamo-electric unit E101 driven by the controllable
clutch CL102 is directly outputted to the steering shaft
S105 of the differential gear set DG, or through the fixed
or variable speed ratio or variable steering transmission
20 or planetary transmission mechanism T103 before being
outputted to the steering shaft S105 of the differential
gear set DG, or alternatively, by means of the output
clutch CL101 controlled by manual, mechanical,
electromagnetic, hydraulic or centrifugal force before
25 being outputted to the steering shaft S105 of the
differential gear set DG; both of the primary
dynamo-electric unit E101R to the right and the other
primary dynamo-electric unit E101L on the left are subject
to equal speed or differential drive by a drive control
30 device CD101.

60. A drive dynamo-electric unit speed controlled compound power system as claimed in Claim 55, wherein, a power-locking type or hydraulic coupling type controllable clutch CL102 by manual, mechanical, electromagnetic or hydraulic force, and the one-way transmission mechanism SWC101 selected for steering operation are provided between the engine steering shaft S103 and the load side steering shaft S104 so to execute power coupling or interruption on both of the engine steering shaft S103 and the load side steering shaft S104; in turn, the system is provided with power-locking or hydraulic coupling type controllable clutch CL102 and the engine throttle to obtain another specific function of the load driven by the rotation power from the engine so that when the rpm of the load side steering shaft S104 is higher than that of the steering shaft S103 driven by the engine ICE101 and the one-way transmission mechanism SWC101 is idling, or the rpm of the steering shaft S103 is higher than that of the load side steering shaft S104, the engine ICE101 drives the output steering shaft S104 while the other units comprising the system are the same as those claimed in Claim 55; the combination of those structures described above for the system are subject to control by the manual control interface M101, the central control unit CCU101, the drive control device CD101 and the storage discharging device ESD101 and the specific system structure described above provides functions related to those claimed in Claim 1 or other specific function, and operation patterns related to those claimed in Claim 2 or other specific

operation patterns.

61. A drive dynamo-electric unit speed controlled compound power system as claimed in Claim 60, wherein, that the preferred embodiment taken from Fig. 59 of the present invention is provided with an output clutch CL101 controlled by manual, mechanical, electromagnetic, hydraulic or centrifugal force. The output clutch CL101 is provided between the load side steering shaft S104 driven by the primary dynamo-electric unit E101 and the load. When the output clutch CL101 is closed, it provides same functions as those claimed in Claim 60; when the output clutch CL101 is disengaged, it provides additional functions including that it is separated from the load and leaves the engine ICE101 to simultaneously drive both of the primary dynamo-electric unit and the secondary dynamo-electric unit E102 to operate as a generator, or the primary dynamo-electric unit E101 is driven alone to operate as a generator, and functions related to those claimed in Claim 1 or other specific function, and operation patterns related to those claimed in Claim 2 or other specific operation patterns.

62. A drive dynamo-electric unit speed controlled compound power system as claimed in Claim 61, wherein, the primary dynamo-electric unit is replaced by two independent dynamo-electric units respectively provided on the side of two output shafts of the differential gear set; essentially comprised of having the primary dynamo-electric unit E101 as claimed in Claim 61 to be replaced by a primary dynamo-electric unit E101R to the right and another primary dynamo-electric unit E101L on

63. A drive dynamo-electric unit speed controlled compound power system as claimed in Claim 3~10, 23~62, wherein, the load is driven by the output directly from the steering shaft S103 or via the variable steering or planetary transmission mechanism T104 with fixed or variable speed ratio; and the originally disclosed load side steering shaft S104 is provided to directly coupled or through the variable steering or planetary transmission mechanism T102 with fixed or variable speed ratio, to the primary dynamo-electric unit E101. Meanwhile, the output clutch C1101 driven by the load side steering shaft S104, the variable steering or planetary transmission mechanism T103 with fixed or variable speed ratio, and the load side device of the differential gear set DG can be all or partially reserved or removed.

64. A drive dynamo-electric unit speed controlled compound power system as claimed in Claim 3~62, wherein, the load is driven by the output directly from the steering shaft S103 or via the variable steering or planetary transmission mechanism T104 with fixed or variable speed ratio and the primary dynamo-electric unit E101 driven by the engine ICE101 operates as a generator; or the electric energy generated by the secondary dynamo-electric unit E102 driven directly by the electric energy from the storage discharging ESD101 or from the engine or via the load is driven by the output directly from the steering shaft S103 or via the variable steering or planetary transmission mechanism T101 with fixed or variable speed ratio is controlled by the manual control interface M101, the central control unit CCU101, the drive

control device CD101 for the primary dynamo-electric unit
E101 to operate as a motor, thus to start the engine ECE101,
or drive only the load with or without the engine ICE101.